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This study assessed the effects of selected environmental factors on the post-high school adjustment of male Negroes from 12th-grade Project TALENT sample. Environmental influences were (1) Negro density in high school, (2) urban or rural school population, and (3) geographic region. Post-high school adjustment variables were (1) job stability, (2) job satisfaction, (3) number of jobs, (4) level of post-high school education, (5) planned post-high school education, and (6) rise of earning power. Data were collected from students tested in the 12th-grade in 1960 and their schools and from a 5-year followup questionnaire. It was found that (1) environmental-parameter could be distinguished from each other, (2) significant differences were generated by regional influences but not by community or Negro density factors; and (3) there were no significant environmental factors influencing post-high school education. (EF)

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Project TALENT

EFFECTS OF NEGRO DENSITY ON STUDENT VARIABLES AND THE POST-HIGH-SCHOOL ADJUSTMENT OF MALE NEGROES

David E. Kapel

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Flanagan, J. C., Dailey, J. T., Shaycoft, Marion F., Gorham, W. A., Orr, D. B., & Goldbert, I. *The talents of American youth.* Vol. 1. *Design for a study of American youth.* Boston: Houghton Mifflin, 1962.

Flanagan, J. C., Dailey, J. T., Shaycoft, Marion F., Orr, D. B., & Goldberg, I. *Studies of the American high school.* (Final report to the U. S. Office of Education, Cooperative Research Project No. 226.) Washington, D. C.: Project TALENT Office, Univer. of Pittsburgh, 1962.

Shaycoft, Marion F., Dailey, J. T., Orr, D. B., Neyman, C. A., Jr., & Sherman, S. E. *Studies of a complete age group - Age 15.* (Final report to the U. S. Office of Education, Cooperative Research Project No. 635.) Pittsburgh: Project TALENT Office, Univer. of Pittsburgh, 1963.

Flanagan, J. C., Davis, F. B., Dailey, J. T., Shaycoft, Marion F., Orr, D. B., Goldberg, I., & Neyman, C. A., Jr. *The American high-school student.* (Final report to the U.S. Office of Education, Cooperative Research Project No. 635.) Pittsburgh: Project TALENT Office, Univer. of Pittsburgh, 1964.

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EFFECTS OF NEGRO DENSITY ON STUDENT VARIABLES AND THE POST-HIGH-SCHOOL ADJUSTMENT OF MALE NEGROES

Project TALENT Five-Year Follow-up Studies
Interim Report 6
Project No. 3051
Contract No. OE-6-10-065

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American Institutes for Research

and

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1968

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Foreword

The goals of research are more often efficient determinants of direction than they are of effective achievements, and so it has been here. The author has had to console himself with R. L. Stevenson's thought that "To travel hopefully is a better thing than to arrive." When his study started it could not be foreseen that an insufficiency of data would preclude the elevation of hypotheses to the ranks of conclusions. He has not allowed disappointment to affect his determination or to cloud his judgment; he warns repeatedly of the limitations imposed by the sample.

When TALENT was initiated ten years ago, the coverage of information sought, including description of the sample, was as thorough as any other aspect of this tremendous undertaking. One of the very few questions that was <u>not</u> asked was that of the ethnic group of the respondent. This was no oversight, nor misplaced idealism. At that time the inclusion of this question could have done more harm than good, touching upon susceptibilities aggravated by the pervading atmosphere. It was wiser to forego the advantage of this single question. By the time of the second round of follow-up surveys five years later, the climate had changed considerably. The participants were five years nearer the maturity needed to recognize the objectivity of the project; and so the question was included in the five-year follow-up questionnaire.

The sample that responded was clearly subject to biasing attrition. Out of 90,637 questionnaires sent out, 35,742 were returned, about 39 percent. But of these only 1,304 were from Negroes, when on the same basis we would have expected over 3,000 to be. Furthermore, of these 1,304, only 399, or less than one-third were males. In fact, basing our calculation on existing educational statistical data for 12th grade, there ought to have been about 8,900 Negroes amongst the original numbers approached, and about 4,200 of them males; thus in the end less than ten percent of these responded.

As is normal amongst conscientious research workers, non-respondents were not permitted to escape without a struggle. Here, four percent of them were randomly selected for persistent and concentrated pursuit. There would have been roughly 150 Negro males involved and 67 were eventually persuaded to reply. There are two possible objectives in such a chase and the less profitable one argues that any increase in the recovery rate increases the final size of the sample and therefore diminishes the standard errors - a very expensive process which is hardly defensible in terms of increase accuracy unless it results in something of the order of 90 percent total recovery. The more sensible approach and that adopted, is to take a sample of the nonrespondents and study them intensively to determine of what order the biases, if any, have been. There were only 67 in this sample - so small a number that it was not surprising that

differences on the check variates did not reach the one percent level. The author therefore sounds the alarm, and throws the two samples together. His warnings, oft repeated, should not be taken lightly; there was a difference between mean scores of initial respondents and the hunted, on an overall measure of ability, of about one-third of a standard deviation. If readiness to respond is correlated with this ability, the main body of the sample with which the author had to work, could have been as much as 0.4 of a standard deviation above the mean level of general ability of this group.

Now while this was not what the author had planned, there is still profit in the study provided we can shift our stance. The sample of about 400 Negro males was not necessarily representative of the population of 12th grade Negro males; in fact it was probably <u>not</u> representative with perhaps biases towards the upper ends of the socioeconomic and general academic aptitude continua. Beyond this it is difficult to go, since we cannot typify this population from the original TALENT data. However we can translate the conclusions reached as applying to a subsample which was perhaps somewhat select, but also one in which, precisely because the number was not too large, the two significant rejections of the null hypothesis also represented important departures. In itself this is welcome encouragement to others to replicate the study with larger and more representative samples, while using the same repertoire of statistical techniques.

A.O.H.Roberts

Preface

It is hoped that the results of this study will provide additional information to the growing research on the effects of Negro density on students. This study is unique in that it focuses primarily on the post-high-school adjustment of male Negroes. Although definitive answers cannot be derived from this study, its results should provide a focal point for subsequent research in the area.

The author is indebted to all members of the Project TALENT staff who contributed their time, effort, and many helpful suggestions to this research effort. However, the author wishes to express his gratitude to William W. Cooley, Director of Project TALENT, who suggested the topic and gave guidance throughout its development; Paul R. Lohnes for helping in the initial design of the study; Bary G. Wingersky for developing and writing the partial canonical discriminant analysis program used in this study; Charles E. Hall for guiding the study through the multivariate analyses of variance; Lyle F. Schoenfeldt who gave numerous suggestions, support, and critiqued the initial draft of this monograph; Janet Combs who utilized her editorial expertise in the development of its present form; Susan Barclay who did all the computer work for this study; and Sadye Weiss who typed the final manuscript.

This report is affectionately dedicated to Marilyn, Michael, Larry and Amy Kapel.

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TABLE OF CONTENTS

	Page
Foreword	iii
Preface	vi
List of Tables	ix
List of Figures	xi
Chapter 1. Background of the Study	
Introduction	1
The Negro and Segragation, Socioeconomic Influences, Aspirations, Employment	2
Scarcity of Young Adult Male Negroes	7
Variables Used and Definition of Terms	8
Student Variables	9
Environmental Factors	11
Post-High-School Adjustment Variables	12
The Focus of the Study	13
Chapter 2. Description of the Sample	15
The Sample: Negro Density Characteristics	18
The Sample: Community Characteristics	19
The Sample: Regional Characteristics	22
Student Factors x Community x Negro Density within Regions	32
Negro Density x Student Factors	38
Discussion	39
Employment	40
College Attendance	41
Applicability of Weighted N	42
Chapter 3. Analyses of Student, Employment, and Environmental Variables	
Testing Student and Employment Variables	45
Discussion	52
Testing the Residual Discriminating Power	54
Testing Employment Variable Discrimination	54
Discussion	57
Testing the Influences of the Environmental Variables	57
Discussion	58
Summary	58

Chapter 4. Analyses of Post-High-School Education Variables 62
Discussion 62
Environment Effects 65
Discussion 67
Summary 68
Commentary 70

References 72

Appendix A. Relevant Questions in General School Characteristics Questionnaire (1960) 76

Appendix B. Post-High-School Adjustment Variables from the Project TALENT Follow-up Questionnaire (1965) 77

LIST OF TABLES

Table		Page
1-1	The General Academic Aptitude Composite	10
2-1	Proportion of Subjects by Levels of Negro Density and by Community for Regions	24
2-2	Proportions of Subjects by Levels of Negro Density and by Community for the Pooled Northeast and Midwest Region	26
2-3	Proportion of Subjects by Negro Density and by Regions (Urban Only)	29
2-4	Proportion of Subjects by Negro Density and by Regions (Rural Only)	30
2-5	Percentage of Negroes from the Northeast-Midwest Region in P*801 (SEE) Quartiles by Aptitude (C-002) and Type of Community	33
2-6	Percentage of Negroes from the Southern Region in P*801 (SEE) Quartiles by Aptitude (C-002) and Type of Community	34
2-7	The Effects of Negro Density on Socioeconomic Environment Index (Pooled Regions)	35
2-8	The Effects of Negro Density on General Academic Aptitude Composite (Pooled Regions)	35
2-9	Employment Distribution	41
2-10	College Attendance of the Male Negro Sample (N=410) as of October 1, 1965	42
2-11	Weights (by Weight A) and Non-Weights of the Sample as Representative of the 1960 12th-grade Male Negro	44
3-1	Number of Subjects in Each Region-Community-Negro Density Group	48
3-2	Canonical Correlations with Variable-Canonical Variate Correlations and Percent of Trace	50

Table		Page
3-3	Region-Community-Negro Density Group Means and Standard Deviations of Subjects Employed Full-time	51
3-4	Correlations of Student and Post-High-School Adjustment Variables	53
4-1	Proportion of Responses to Post-High-School Education and Planned Post-High-School Education by Region-Community-Negro Density Groups	64
4-2	Chi-squares of Comparisons for Regional, Community, and Negro Density Effects	67

LIST OF FIGURES

Figure		Page
2-1	Total Sample Distribution by Regions of Negro Density	20
2-2	Total Sample Distribution by Regions Within Pooled Intervals of Negro Density	21
2-3	Total Sample Distribution by Regions of Community Characteristics	23
3-1	Discriminant Function Centroids of Six Region-Community-Negro Density Groups with Job Stability and Post-High-School Education Partialed	47
3-2	Discriminant Function Centroids of Six Region-Community-Negro Density Groups with Job Stability and Post-High-School Education Partialed	55

Chapter 1

Background of the Study

Introduction

In the late 1950's John C. Flanagan conceived and organized Project TALENT, a national longitudinal study of American youth. (11) The goals of Project TALENT include: (1) a scientifically planned inventory of the talents of high-school students; (2) the determination of the specific patterns of aptitudes, abilities, and interests which provide the best basis for various careers and college courses; (3) a better understanding of how young people choose their lifework; and (4) a better understanding of the educational experiences that prepare students for their lifework. As the first phase of this project, two days of educational-psychological tests and inventories were administered to 440,000 students in grades 9-12 from over 1,300 schools, approximately 5 per cent of the high schools in the United States. Data were also collected about the participating schools. By relating the follow-up data later collected by Project TALENT to these 1960 data, it is possible to investigate, on a large scale, across and within regions, school effects over long periods of time.

Specifically, the intent of this study is to assess the effects of the percentage of Negroes in schools and other factors on the post-high-school adjustment of male Negroes. Two types of data were used. The first was data collected from students tested as 12th-graders in 1960 and their schools. The second was race and post-high-school adjustment information obtained from the

five-year follow-up questionnaires sent to these same young people. Thus, Project TALENT, unlike the study reported in Equality of Educational Opportunity (4), allows a longitudinal look at male Negroes who have been out of high school for five years.

Because the sample used in this study could only be identified through the five-year follow-up questionnaire, the number of male Negroes was not expected to equal the number in the initial study. However, the number of male Negroes who were identified was far below the number expected. Consequently, the scope of the study was limited.

The following two sections focus very briefly on research directly related to this study.

The Negro and Segregation, Socioeconomic Influences, Aspirations, Employment

Coleman et al. (4) completed a study for the United States Office of Education dealing with educational opportunities. The sample was approximately twice the size of Project TALENT's. It is already evident that an undertaking of such depth and scope will have a great impact on American education. It is not the intent of this author to report all of its findings; it is suggested that the reader become acquainted with the Equality of Educational Opportunity study (particularly Chapters 1, 2, and 3). The following are conclusions from it pertinent to this present study:

1. Minority children are affected more by the strengths or

weaknesses of school facilities, curricula, and teachers than are white children (p. 22).

2. School achievement of minority children depends more on the schools they attend than does the achievement of majority children (p. 22).

3. Student achievement is strongly related to the educational backgrounds and aspirations of the other students in the school. This relationship is stronger for Negroes than for whites (p. 22).

4. Negroes in schools with a higher proportion of whites have a greater sense of control over their environments and future than those who attend schools with smaller proportions of whites (p. 23).

5. Analysis of the test performance (reading and mathematics) of Negro students in integrated schools indicates positive, although rather small, effects of integration. These effects were particularly noticeable where more than one-half the classmates were white (p. 29); scores were higher for Negroes attending segregated schools than for those where the proportion of whites was less than one-half (Table 21, p. 31).

6. Proportion of whites in schools was positively related to individual performance (p. 330).

It is apparent from these findings that the nature of the schools attended by Negroes had an influence on their school achievement and self-image; Negroes attending schools with a majority of the students being white were "better off" than those

attending integrated schools where Negroes were in the majority or made up the entire school population. Similar results were found by Burket (3) who reported that there was a tendency for the mean scores on aptitude and achievement tests to decrease as the percentage of Negroes in the school increased (the decrease cut across geographical areas). However, these differences might not be a function of the school experiences, but rather a function of "non-school" influences, e.g., family factors, genetic factors (24).

St. John (28) found that high-class Negroes (August B. Hollingshead's Two Factor Index of Social Position) tended to have lower aspirations as the percentage of Negroes in a school decreased, while low-class Negroes only tended to reduce their aspirations slightly. According to the findings reported by St. John, de facto segregated schooling is not associated with lower aspirations (p.293), and a Negro child's self-esteem and motivation are more threatened by a desegregated school than a segregated school (p.294). She also found that Negro students who had Southern experience in schools (total segregation) and attended less segregated schools in the North tended to have higher aspirations than those who attended Southern schools and then attended Northern schools with larger Negro populations.

There appear to be differences in conclusions concerning the effects of segregation as reported in the studies above. Specific region, sample size, and experimental design could have created these differences. For example, St. John dealt with Negroes who

were primarily from a New England city, or had moved into that city.

De jure segregation is being replaced by de facto segregation in both the North and South as a product of housing patterns and the neighborhood school concept (32). If this trend continues, the chances for a Negro child attending a desegregated school become nil. This fact becomes meaningful if, as Pettigrew (25) has stated, Negro education is grossly inferior with less expenditures per child, fewer trained and experienced teachers, and less adequate facilities. Refer to Coleman (4) Chapters 2 and 4 for an excellent description of the non-cognitive aspects of education for minority students. Burket (3) found in the Project TALENT school sample that there was a tendency for per-pupil expenditure to decrease with increasing percentages of Negroes enrolled in rural communities, in towns, and in small urban areas, a trend reversed in large urban communities. He concluded that the reversal in urban communities was generated by an effort to provide adequate educational facilities in low-cost housing areas. If quality of education can be indicated by per-pupil expenditures, then segregation has different effects depending on housing stratification; this, in turn, is a subset of socioeconomic status.

Socioeconomic status has been shown to influence achievement and grades in school by Heimann and Schenk (17), Coster (5), Davis (6), Eels et al. (10), Knief and Stroud (20), Stewart (31), Coleman (4), and Flanagan et al. (14). Generally, the results favored the higher socioeconomic groups.

Related to future adjustment is the level of aspirations held by the American Negro. Bloom, Davis, and Hess (1) found that Negro parents and their children have extremely high levels of aspiration. This finding was confirmed by Coleman (4, p. 280), and even found to be true among Negro National Achievement Scholarship Finalists according to Roberts and Nichols (26). It is of interest to note the findings (as reported earlier in this section) of St. John (28) who reported that students who had school experience in the South and then attended schools in the North had lower aspirations than Northern Negroes with no Southern school experience. She also found that de facto segregated schooling was not associated with lower aspirations, although plans were significantly related to social class.

Conflicts can and do occur between socioeconomic status, education, aspirations, and opportunities for the Negroes. Derbyshire (7) found that upwardly mobile Negro college students identified with socio-cultural and national rather than racial groups, thus creating conflict and confusion within students. Discrepancies between level of aspiration and actual level of academic achievement for Negroes were found by Rosen and D'Andrade (27) and Derbyshire and Brody (8) with possible conflict consequences. Dreger and Miller (9) reported that there is evidence to suggest a sex difference among Negroes in establishing an adequate self-concept, with females finding it easier than males. Disadvantaged groups do not attain the educational and vocational goals typical of middle-class American society (22, 1); this

finding becomes quite significant as related to Negroes in the present American culture.

Employment opportunities also have a cause and effect role in conflicts for the Negro. It appears that schooling for Negroes is not realistic in terms of job opportunities as reported by Gershenfeld (15), Pettigrew (25), and the National Industrial Conference Board (23). This fact becomes particularly disturbing when unemployment data are reviewed. In 1965 Negro unemployment was 7.5 per cent, far above the national average, Negroes accounted for 20 per cent of the unemployed total (twice their share of the labor force), one out of every four Negroes in the 14-19 age group in the civilian labor force was unemployed, and unemployment of Negro youth was heavily concentrated in the poorer neighborhoods of large cities. However, in 1965 the overall employment picture, regardless of race, was extremely bright with the unskilled jobless rate at a two-year low, white-collar employment continuing its long-term upward trend, and blue-collar employment registering its largest gain since the Korean War. Sales and clerical employment were also at all-time highs, and the demand for professional and technical workers remained high (19). It becomes apparent that Negroes were disproportionately represented in the unemployment figures during a period in which the general economic situation in the United States was very healthy.

Scarcity of Young Adult Male Negroes

The scarcity of male Negro subjects in this study has

limited the research. This problem, however, is not unique to Project TALENT. Siegel and Zelnik (30, p. 78) of the U. S. Bureau of the Census reported that in the 1960 census "the enumeration of males at ages 15 through 44, especially for non-whites, is less complete than at other ages on the average level over all ages." They also stated that "there are important geographic variations in the completeness of enumeration. Coverage is probably poorer in the central cities of our metropolitan area than in the suburban counties and probably poorer in the South than in the rest of the United States. Coverage is probably poorest in the slum areas of our big cities, but we do not have evidence from interviews or other studies to support this conclusion."

In the 20-24 age-group (this was the age-group used for the current study) Siegel and Zelnik (30, p. 83) found an estimated 21.2 per cent undercount for non-white males in the 1960 census. Bogue, Misra, and Dandekar (2) also found considerable estimates of net undercounts of the Negro population. In the present study the problem is made more serious by the fact that racial identification could only be made on the five-year follow-up questionnaire.

Variables Used and Definition of Terms

Student and environmental factors, as used in this study, were products of the 1960 Project TALENT survey. Information about the post-high-school adjustment variables was obtained through the follow-up questionnaires sent to the 12th-grade students five years after they had originally been tested (1960).[1]

[1] A description of the follow-up strategy appears in Chapter 2.

Student Variables.

1. The SocioEconomic Environment Index (SEE) was created from nine TALENT Student Information Blank (SIB) items. SEE is so named because of its emphasis on environment rather than status. It is a standardized score (with a mean of 100 and a standard deviation of 10) computed as follows:

$$\text{SEE Index} = \left[\frac{\sum_{i=1}^{n} Z_i}{K_n} + 10 \right] 10$$

Where n = number of items answered

K_n = an approximation of the standard deviation of $\sum_{i=1}^{n} Z_i$, which in turn is the sum of the standard scores of items answered.[1]

2. The General Academic Aptitude Composite (C-002) was developed from eight TALENT aptitude and ability tests (Table 1-1 This composite was defined on an a priori basis by the Project TALENT staff in 1963. Assumed to describe academic aptitude, it was used as such in the study. The reliability estimates of the tests that compose the C-002 composite have been reported by Shaycoft (29).

[1] Refer to Appendix E in the One-Year Follow-up Studies (14) for further description of the SEE Index.

Table 1-1

The General Academic Aptitude Composite[a]

		Maximum Raw Score	Raw Score Weight (K)	Relative Effective Weight (Gr.12)
R-106	Math Information	23	2	.08
R-172	Vocabulary I + II	30	1	.04
R-230	English Total	113	3	.28
R-250	Reading Comprehension	48	3	.20
R-260	Creativity	20	2	.06
R-290	Abstract Reasoning	15	2	.04
R-311	Math I	16	-	.12
R-312	Math II	24	-	.18
R-320	Math I + II	40	5	
	Total	329		1.00

Where the relative effective weight was proportional to $K\sigma$, σ is grade 12 standard deviation for special subsample [subsample is described in Appendix A and page 2- 2 of The American High-School Student (13)], and K is the raw score weight.

[a] Appendix B, The American High-School Student.

Environmental Factors.

1. Negro Density of the High School (see Appendix A) was derived from Question 98 of the General School Characteristics questionnaire sent to all the schools participating in the 1960 survey. This question asked the respondent to indicate what "percentage of your grades 9-12 pupils are Negro." Therefore, Negro density indicates the ratio of Negro pupils in the school to the entire school population.

   As a result of the distribution of respondents and the lack of integrated schools in the South in 1960, the subdivisions of question 98 were pooled into two classifications. High density was equated to mean a 50-100 per cent Negro school population; low density indicates a 0-49 per cent Negro school population. A more detailed description will be presented later in this text on the problems created by the distribution of respondents in terms of Negro density.

2. Community indicates whether the school serves primarily an urban or rural school population. Question 88 (see Appendix A) of the General School Characteristics questionnaire supplied the information. Again it was decided to pool certain responses. Responses 1-7 were considered urban (communities over 5,000 and urban and suburban), and rural included small towns under 5,000 and farms (responses 8 and 9); the remaining two

responses were recoded either urban or rural depending upon the nature of the responses.

3. Regions. Project TALENT used the nine geographical regions, as used by the United States Office of Education, in the 1960 survey. Using the Equality of Educational Opportunity study as a model, it was decided to pool these regions as follows:

USOE/ Project TALENT	New Regions (pooled)
New England and Mid-east	Northeast
Great Lakes and Plains	Midwest
Southeast	South
Southwest	Southwest
Rocky Mts., Far West, Non-contiguous	West

Post-High-School Adjustment Variables. In terms of this study, post-high-school adjustment can be considered a composite of sundry variables made available through the five-year follow-up questionnaire. At no time are value judgments made concerning positive or negative adjustment, with the exception of the variables that have been designed to allow the students to do so. Such judgments are left to the discretion of the reader.

Post-high-school adjustment variables (Appendix B) are: (1) Job Stability - number of years on the job held as of October 1, 1965; (2) Job Satisfaction - how the subject felt about the job he held on October 1; (3) Number of Jobs - how many full-time jobs held from 1960-1965; (4) Level of Post-High-

School Education - a continuous variable scaled from 0 (no post-high-school education) to 7 (advanced degree earned, e.g., Ph.D.). As a result of the small number of subjects in each category, it was decided when making certain analyses to compress the variable into a dichotomy of "none" (no post-high-school education) and "additional education" (all other gradations of the original variable); (5) For subsequent exploration, "additional education" was further broken down into technical school education (non-college) and college experience; (6) Planned Post-High-School Education - a continuous variable scaled from 0 (no further education planned) to 5 (advanced degree planned, e.g., Ph.D.). However, a dichotomous variable had to be made from the original variable due to the small number of subjects in each category. The dichotomy was "none" and "additional education;" (7) Rise of Earning Power (yearly) - the difference between the present salary and starting salary for the job held on October 1, 1965, for full-time employees with job stability partialed out.

The Focus of the Study

The major concern of this study is to evaluate Negro density and other selected environmental factors as to their effect on the post-high-school adjustment of male Negroes from the 12th-grade Project TALENT sample.

Specifically, the null hypotheses tested can be stated as follows:

1. Environmental-parameter groups cannot be distinguished in terms of post-high-school employment adjustment and student

factors.

2. There are no significant differences among the groups related to environmental factors.

3. There are no significant selected environmental factors that influenced students in the type of post-high-school education acquired and future educational plans.

Chapter 2

Description of the Sample

Follow-up questionnaires were sent to Project TALENT participants one year after their class was to have graduated from high school (1961 for those in grade 12 in 1960, 1962 for those in grade 11, etc.).[1] The five-year follow-up surveys began on October 8, 1965, when 90,637 questionnaires were sent to the twelfth-graders of 1960. By October 31, 1966, 35,742 questionnaires had been returned to the Project TALENT office. A 4 per cent sample of nonrespondents was then contacted by Project TALENT's regional coordinators or the Retail Credit Company. This 4 per cent sample is designated as the special nonrespondent sample in this study. This nonrespondent survey made it possible to estimate the characteristics of all the young people who didn't answer the questionnaire and then combine them with those of the respondent group. It is in these five-year follow-up data that this study found its origin. Using the TALENT Data Bank facilities (18), these data were combined with 1960 data in order to carry out this study.

The five-year follow-up questionnaire differed in many respects from the one-year follow-up questionnaire. For example, Question 16 in the five-year questionnaire asked students to classify themselves according to race. This was the first time

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[1] A further description of the follow-up procedures used by Project TALENT and the results of the one-year follow-up surveys can be found in the One-Year Follow-up Studies (14).

such a question had been asked, and added another dimension to possible research designs. In fact, its inclusion made the present study possible. By October 31, 1966, 1,304 respondents had identified themselves as Negroes, of whom 399 were males. Through the nonrespondent survey, an additional 67 males were added. Thus, 466 male Negroes comprised the sample used in this study.

It is interesting to note that many more female than male Negroes were identified through Question 16. The following hypotheses are offered as possible explanations:

1. Negro females tended to respond more to questionnaires than male Negroes. (It is interesting to note that the response rate for all males based on the total 12th-grade sample is 39.28 per cent and the rate for all females is 38.28 per cent.)

2. More Negro females responded to Question 16 than did Negro males, thus burying the Negro male responses in the number of males of all races (118 out of 17,482) who didn't respond to the question.

3. Male Negroes tend to be more physically mobile than female Negroes, and hence could not be located for the follow-up study.

As a consequence of the relatively small number of respondents and nonrespondents, weighting the frequencies would generate meaningless cells for analyses. (For example, it would be possible for six subjects to represent 15,000 subjects under the conditions of this study; weighting is discussed in greater detail in a later section of this chapter.) Pooling respondents

and nonrespondents without the use of weights appeared to be one solution. However, since highly significant differences between respondents and nonrespondents were reported in the One-Year Follow-up Studies [(14), Chapter 3], it was decided to use a t test to determine if the special male Negro nonrespondents could be merged (to increase the sample size) with the male Negro respondents without affecting the nature of the sample. The t test of difference between two means for independent samples was used with the Socioeconomic Environment Index (SEE) as the dependent variable to be tested. It was assumed that the SEE Index would best describe the nature of the two populations and would have more meaning in terms of this investigation.

The SEE mean of the male Negro respondent group was 90.77 with a standard deviation of 10.20; the mean of the nonrespondent group was 88.49 and standard deviation of 9.02. The t test with d.f. of 464 did not reach the .01 level of significance (t=1.73). Thus, it was decided that both subsamples could be merged for subsequent analysis without altering and/or significantly affecting the basic nature of the sample.

Another finding was that the SEE means of both male Negro respondents and nonrespondents were at least one standard deviation below that of the 12th-grade (1960) one-year follow-up total male population that included all racial and ethnic groups. The standard deviations were approximately the same.

Since SEE was not the only student factor to be explored in this study, it was decided to investigate the respondent and

nonrespondent distributions of the General Academic Aptitude Composite (C-002). The difference between the means of the respondent and nonrespondent groups was tested in terms of individual differences as measured by this composite. The mean of the male Negro respondent group was 424.93 with a standard deviation of 124.34, and the nonrespondent group's mean was 383.90 with a standard deviation of 130.82. The t test of the difference between two means for independent samples with d.f. of 383 did not reach the .01 level of significance (t=2.31). Again it appeared that pooling the respondent and nonrespondent groups would not confound the resulting sample.

The mean of the Academic Aptitude Composite (C-002) for the total 12th-grade 1960 male population (all ethnic and racial groups) was 540.76 and the standard deviation was 125.99. Comparing this mean with the means of the respondent and nonrespondent distributions indicates that the latter are one standard deviation below the mean of the 12th-grade total 1960 male population. It is not the intent of this study to compare the male Negro samples with the 12th-grade total male population; however, the reader might want to use the above information as a reference point.

The Sample: Negro Density Characteristics

The distribution of 444[1] Negroes in this study (respondents and nonrespondents) in terms of the percentage of Negroes

[1]Due to missing data, the N of the sample was reduced to 444.

by regions within intervals can be seen in Figure 2-1. It is apparent that this is a highly skewed distribution with several intervals empty. Such a distribution lends itself to pooling the intervals so as to make it more meaningful in terms of the projected analysis of this study.

The pooling of intervals 0-49 per cent into one interval titled Low Density and the pooling of intervals 50-100 per cent into another interval titled High Density appear to be more natural combinations of the original distributions, giving a less skewed distribution for purposes of this analysis. Figure 2-2 gives graphic representation of this new distribution by regions. It is also evident that if the regions were collapsed and pooled, the number of students attending high density schools would be considerably greater than the number attending low density schools, due to the contribution of the South to the distribution. However, it later became apparent that partial pooling of regions was necessary, even though a complete collapse of all regions was not appropriate. The problem of regions is discussed later in this section of the monograph.

The Sample: Community Characteristics

Urban and rural classifications appeared to best describe the school communities from which the sample was drawn. It was assumed that suburban, urban, and towns over 5,000 were more alike than different with regard to their school characteristics, hence such responses were classified as urban. Thirteen subjects outside of the South came from small town schools; 46 from the

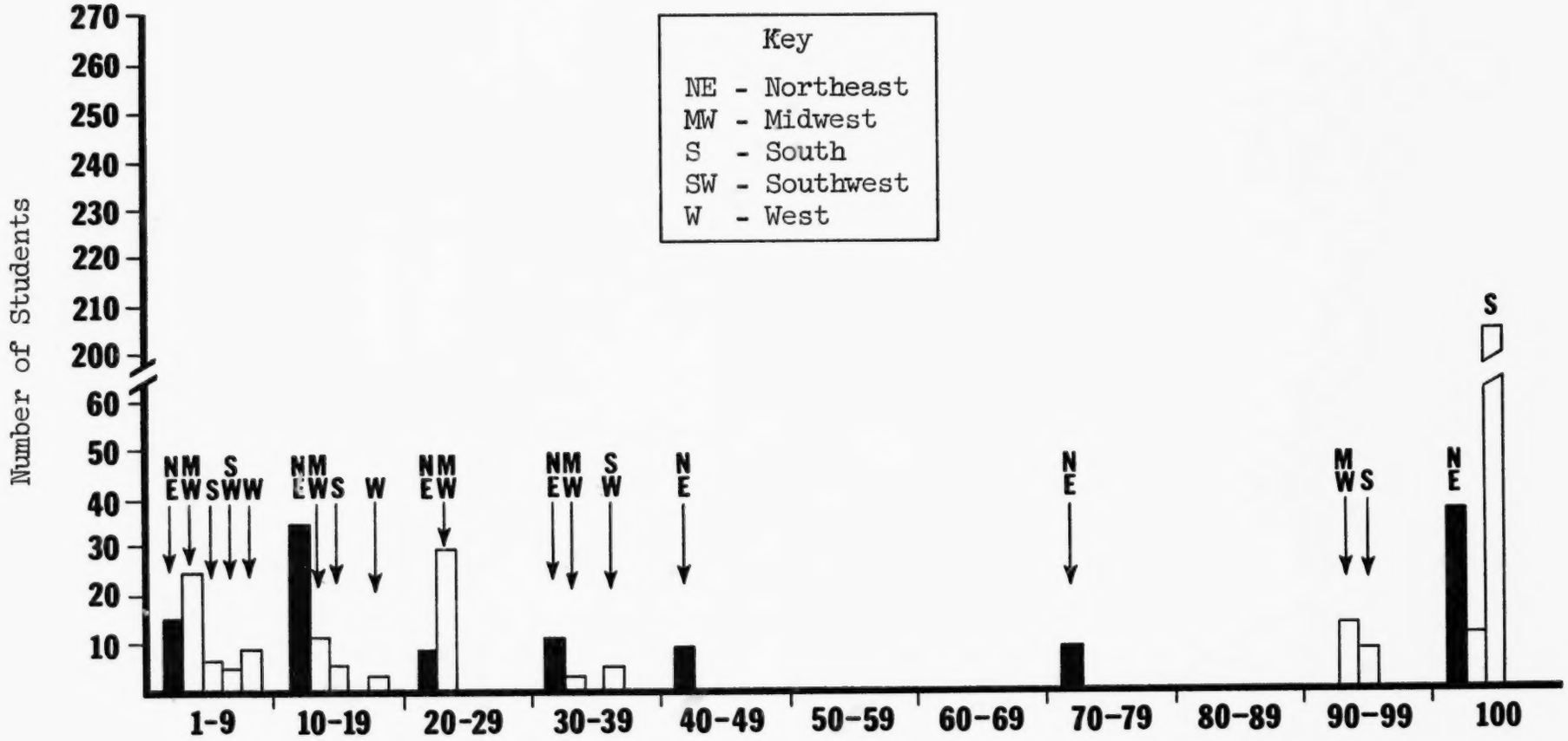


Figure 2-1

Total Sample Distribution by Regions of Negro Density

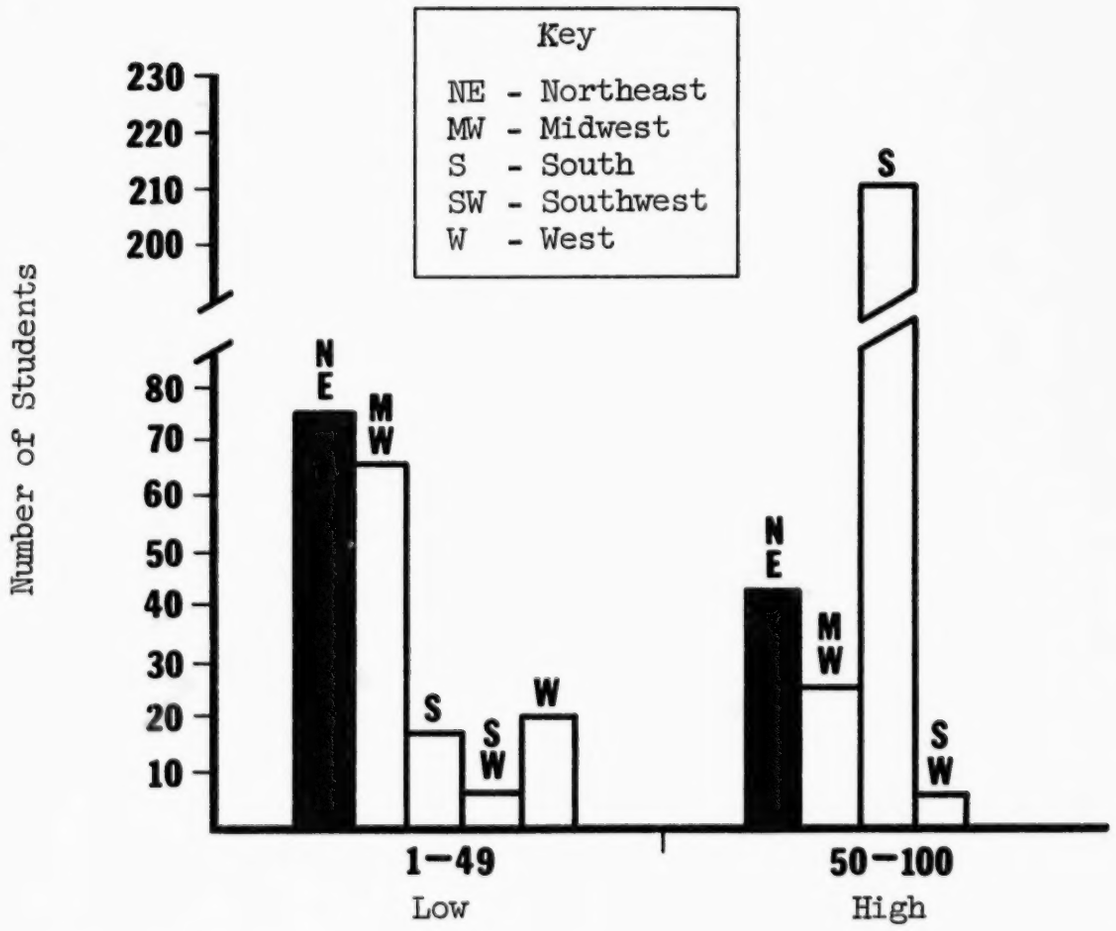


Figure 2-2

Total Sample Distribution by Regions Within Pooled Intervals of Negro Density

South came from schools that indicated that their population was primarily from small towns. A check of these schools indicated confusion over the term "small town," since many were so small that they were considered rural and/or rural in nature. Therefore, small town and rural responses were merged as rural.

Inspection of Figure 2-3 indicates that the Negro males came primarily from urban schools. By merging community classifications established in the 1960 survey, the distribution of the sample in terms of community types became less skewed, but the differences between urban and other communities are still considerable. It appears that the differences were generated by the distribution of respondents and nonrespondents within each region and between regions. A discussion of the nature and treatment of regions follows.

The Sample: Regional Characteristics

A chi-square test, to determine if the distribution of cases obtained departed from a random or chance (50-50) distribution, was used. The following formula was used to compute the chi-squares:

$$\chi^2 = \frac{N\left(\left|ad-bc\right| - \frac{N}{2}\right)^2}{(a+b)(a+c)(b+d)(c+d)}$$

Table 2-1 contains the proportions and cell sizes for the total sample and four subsample geographic regions (level of Negro density x community). These were not computed for the fifth region (West), because the sample frequencies were too small to be meaningful. The chi-square coefficient for the entire

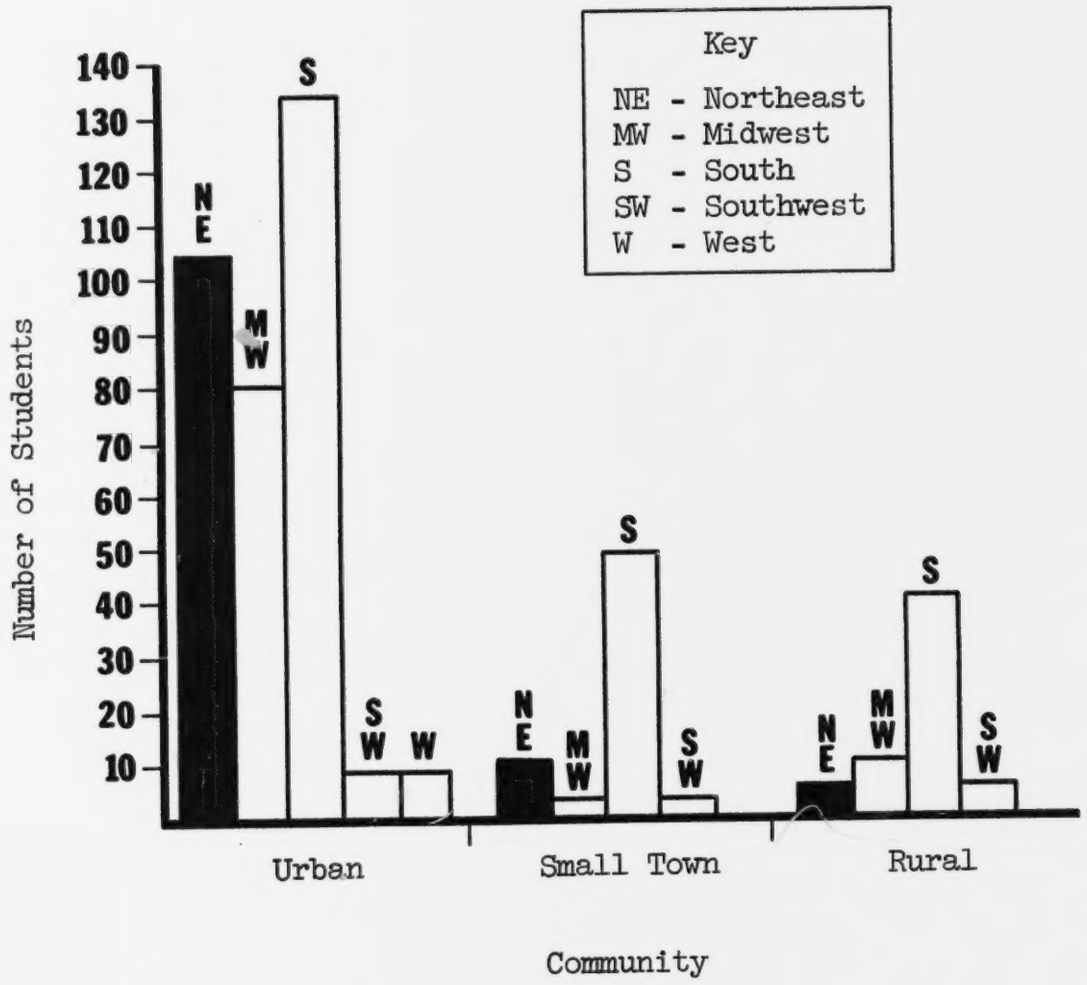


Figure 2-3

Total Sample Distribution by Regions of Community Characteristics

Table 2-1

Proportion of Subjects by Levels of Negro Density and by Community for Regions

		Level of Negro Density			
		Low (0-49%)	High (50-100%)	Total	χ^2
Entire United States (Excluding the West)	Rural	.134 (15)*	.866 (97)	(112)	
	Urban	.420 (136)	.580 (188)	(324)	28.785 (p.<.001)
Northeast	Rural	.308 (4)	.692 (9)	(13)	
	Urban	.676 (71)	.324 (34)	(105)	5.284 (p.<.05)
Midwest	Rural	.545 (6)	.455 (5)	(11)	
	Urban	.747 (59)	.253 (20)	(79)	1.0771 (n.s.)
South	Rural	.024 (2)	.976 (83)	(85)	
	Urban	.038 (5)	.962 (128)	(133)	0.033 (n.s.)
Southwest	Rural	1.00 (3)	0.00 (0)	(3)	
	Urban	.143 (1)	.857 (6)	(7)	3.353 (n.s.)

*Number of subjects in each cell is found in parentheses.

United States reached a very high level of significance ($p.<.001$), and the coefficient obtained for the Northeast reached the .05 level (almost the .02 level) of significance. The Southwest's χ^2 approached the .05 level; those for the Midwest and South were not significant.

For the sample used, it also appears that Negroes from rural America tended to go to high Negro density schools to a significantly greater extent than Negroes from urban communities. This finding can possibly be explained by two factors:

1. Few Negroes lived in rural areas outside the South in 1960, and in 1960 most schools in the rural South were segregated.

2. Rural Northeast Negroes tended to be more segregated than expected (refer to Table 2-1).

However, caution should be used in accepting the finding due to the disproportionate number of Negroes coming from urban areas.

Negroes from the rural Northeast, as stated above, tended to go to high Negro density schools, and Negroes from the urban Northeast tended to go to highly integrated schools. These differences between communities do not appear to be by chance, but again caution should be used in accepting this finding because of the size of the rural Northeast population in this study.

The number of Negroes from the rural Midwest is so small that it diluted the sample from the region--hence the non-significant χ^2. The number of subjects attending integrated schools in the South in 1960 was almost nonexistent, thus diluting the sample from that region (95 per cent of the schools sampled

in 1960 in the South were classified as being entirely segregated [(12), Chapter 2, p. 21]. The size of the sample and the unbalanced distribution in the Southwest had a suppressive influence on the results from that region, although the χ^2 did approach the .05 level of significance.

Table 2-2

Proportions of Subjects by Levels of Negro Density and by Community for the Pooled Northeast and Midwest Region

	Level of Negro Density			
	Low (0-49%)	High (50-100%)	Total	χ^2
Rural	.417 (10)*	.583 (14)	24	
Urban	.707 (130)	.293 (54)	184	6.843($p<.01$)

*Number of subjects in each cell is found in parentheses.

As a result of the small number of subjects from the West and Southwest in the total sample, pooling of these regions was not advisable. Hence, they were not included in further analyses. The Northeast and Midwest, however, were pooled. Although there were little differences between the proportions found in each of the cells of the Northeast and Midwest regions and the cells in the subsequently pooled Northeast-Midwest region, the merging of the two regions tended to inflate the numbers in the rural cells (Table 2-2), negating the proportional differences found in the Northeast subsample. Whereas Negroes who lived in the rural Northeast tended to go to segregated schools (a possible artifact of the small N's), by combining the two regions, there was a

possibility of acquiring a clearer picture of what actually existed. The urban situation was not changed drastically with the merger. In fact, a more reliable description did occur via the increased N's.

The results indicate that Negroes from the pooled region who live in urban areas tend to go to low Negro density schools to a significantly greater extent than Negroes from rural communities. However, the reader should be aware of the differences in numbers that still exist in the row cells. These differences can be accounted for by the lack of rural Negroes outside of the South, and the large Negro centers in the urban Northeast and Midwest (e.g., New York City, Philadelphia, Chicago). In fact it appears that the major diluting factor for all sections, excluding the South, was the absence of Negroes from rural regions. This, of course, reflects the Negro distribution in the United States outside of the deep South. In summary, the distribution found did not occur by chance, and there was considerable imbalance between levels of Negro density and community within the pooled region.

Further descriptions of the regions without the influence of community and verification of the nonchance distribution were found when the rural section of each sample was taken out. The following formula

$$\chi^2 = \frac{2(f_o - f_e)^2}{f_e}$$

was used to test the hypothesis that the sample had arisen from a population where students had an equal chance to attend high or low Negro density schools. The results for the regions and pooled

region are found in Table 2-3. All results were significant, some to very high levels, with the exception of that for the Southwest. (It appeared that the sample size from the Southwest was too small to make its result meaningful). The hypothesis was rejected with confidence for each region (except the Southwest) and the pooled region, i.e., it was concluded that the distributions within each region were not random. Thus, it is evident that urban Negroes in this study, outside of the South and Southwest, tended to go to nonsegregated schools beyond chance. Less confidence should be placed in the results found in the Southwest due to sample size. The relatively low significance level (relatively low in terms of significance levels reached by other regions), in favor of segregated school attendance, reached by the "Entire United States" was generated by the distribution and number of subjects from the South who attended segregated schools.

When only the rural communities within regions (Table 2-4) were tested for chance distributions, in terms of school attendance, only two regions reached levels of significance (the "Entire United States" and the South). The very high level of significance ($p.<.001$) in favor of segregated schools found in the "Entire United States" region was attributed to two factors: (1) the high imbalance and sample size of Southern children going to segregated schools, and (2) the lack of rural Negroes outside the South. The high level reached by the South was attributed to the slow progress of desegregation in that region by 1960.

Table 2-3

Proportion of Subjects by Negro Density and by Regions (Urban Only)[a]

Regions	Level of Negro Density: Low (0-49%)	High (50-100%)	Total	χ^2
Entire United States	.434 (144)*	.566 (188)	(332)	5.831 (p.<.05)
Northeast	.676 (71)	.324 (34)	(105)	13.038 (p.<.001)
Midwest	.747 (59)	.253 (20)	(79)	19.253 (p.<.001)
South	.038 (5)	.962 (128)	(133)	113.7519 (p.<.001)
Southwest	.143 (1)	.857 (6)	(7),	3.571 (n.s.)
Northeast-Midwest	.707 (130)	.293 (54)	(184)	31.391 (p.<.001)

[a]West not computed due to small sample size.

*Number of subjects in each cell is found in parentheses.

Table 2-4

Proportion of Subjects by Negro Density and by Regions (Rural Only)[a]

Regions	Level of Negro Density: Low (0-49%)	High (50-100%)	Total	χ^2
Entire United States	.134 (15)*	.866 (97)	(112)	60.036 (p.<.001)
Northeast	.308 (4)	.692 (9)	(13)	1.923 (n.s.)
Midwest	.545 (6)	.455 (5)	(11)	0.091 (n.s.)
South	.024 (2)	.976 (83)	(85)	7718.824 (p.<.001)
Northeast-Midwest	.417 (10)	.583 (14)	(24)	0.667 (n.s.)

[a]West and Southwest not computed due to small sample size.

*Number of subjects in each cell is found in the parentheses.

Interpretation of the data found in Table 2-4 must be done cautiously by regions because of small sample sizes; however, it is interesting to note that in all regions, except the South and "Entire United States," it appears that the samples come from populations where children have an equal chance to attend either segregated or nonsegregated schools.

Another interesting finding is that when the chi-squares of the "urban only" groups (Table 2-3) were compared with the "rural only" groups (Table 2-4) in relationship to the data found in Tables 2-1 and 2-2, it becomes evident that the rural subjects tended to suppress actual relationships and mask the effects of the relative distributions within the urban communities between segregated and nonsegregated school attendance.

As a result of the rejection of the hypothesis of random distribution, the lack of nonsegregated schools in the South, the small sample size from the rural non-South, and the size of the Southwest and West, it was felt that the samples best suited for investigating the stated purposes of this research could be created by: (1) pooling the Northeast and Midwest by community (urban, rural), and (2) retaining only those from the South who attended high Negro density schools. Because of the reasons just enumerated, any conclusions will only apply to the sample in the study. Any projection of the results found to the entire Negro male 12th-grade population in 1960, whether by regions or nationally, should be handled with extreme caution. This study should be considered a descriptive, or a "particularizing," analysis [(21), p.471)].

Student Factors x Community x Negro Density Within Regions

Further reference to the total sample in this monograph will mean the sample of both respondent and nonrespondent subjects. In addition, the author believes that the sample should be measured by its own levels of attainment and not be compared with the national norms and/or means that include all ethnic and social groups in the TALENT sample. For this reason the SEE (divided into quarters) and the General Academic Aptitude Composite (classified as "above" and "below" the mean) scores were determined by the total sample (N=382) used in this study and were not based on the entire TALENT sample. For example, the P*801 quartiles in Tables 2-5 to 2-7 were determined from the distribution of Negroes in the total sample, the first quartile being the lowest. The "above the mean" of the C-002 in Tables 2-5, 2-6, and 2-8 represent those who had C-002 scores greater than 422; all others were classified as "below." The mean of the total sample in this study was 421.727 with a standard deviation of 127.875; the mean of the entire TALENT 12th-grade male population in 1960 was 540.76 with a standard deviation of 125.99.

The discrepancy between the number in the sample now being discussed and the number in the sample in the previous discussion has been caused by missing data. However, many of those who were "out of range" in the present analysis will be included in succeeding analyses for which they do have the necessary information on file. The analysis that follows is based on Northeast-Midwest and Southern subjects, P*801 (SEE) within Negro density by aptitude

Table 2-5

Percentage of Negroes from the Northeast-Midwest Region in P*801 (SEE) Quartiles by Aptitude (C-002) and Type of Community

	C-002 $\bar{X}$	Low Percentage of Negro Density P*801 Quartile				High Percentage of Negro Density P*801 Quartile			
		1	2	3	4	1	2	3	4
Urban	Above	5.7 (4)*	22.9 (16)	38.6 (27)	32.9 (23)	3.3 (1)	30.0 (9)	23.3 (7)	43.3 (13)
	Below	30.8 (12)	25.6 (10)	30.8 (12)	12.8 (5)	11.8 (2)	35.3 (6)	23.5 (4)	29.4 (5)
Rural	Above	0.00 (0)	60.0 (3)	20.0 (1)	20.0 (1)	25.0 (1)	25.0 (1)	25.0 (1)	25.0 (1)
	Below	66.7 (2)	33.3 (1)	0.00 (0)	0.00 (0)	33.3 (3)	55.6 (5)	11.1 (1)	0.00 (0)
Total		15.4(18)	25.6(30)	34.2(40)	24.8(29)	11.7(7)	35.0(21)	21.7(13)	31.7(19)

*Cell frequencies appear in parentheses.

Table 2-6

Percentage of Negroes from the Southern Region in P*801 (SEE)
Quartiles by Aptitude (C-002) and Type of Community

	C-002 $\overline{X}$	Low Percentage of Negro Density P*801 Quartile 1	2	3	4	High Percentage of Negro Density P*801 Quartile 1	2	3	4
Urban	Above	0.00 (0)*	25.0 (1)	0.00 (0)	75.0 (3)	25.8 (8)	25.8 (8)	22.6 (7)	25.8 (8)
	Below	-- (0)	-- (0)	-- (0)	-- (0)	30.8 (24)	39.7 (31)	14.1 (11)	15.4 (12)
Rural	Above	0.00 (0)	66.7 (2)	33.3 (1)	0.00 (0)	33.3 (5)	33.3 (5)	20.3 (3)	13.3 (2)
	Below	-- (0)	-- (0)	-- (0)	-- (0)	52.5 (31)	20.3 (12)	11.9 (7)	15.3 (9)
Total		0.00(0)	42.9(3)	14.3(1)	42.9(3)	37.2(68)	30.6(56)	15.3(28)	16.9(31)

*Cell frequencies appear in parentheses.

Table 2-7

The Effects of Negro Density on
Socioeconomic Environment Index (Pooled Regions)

P*801 - (SEE)

Negro Density	Low (1-2) Quartiles	High (3-4) Quartiles	χ^2
Low	51	73	
High	152	91	14.389 p.<.001

Table 2-8

The Effects of Negro Density on
General Academic Aptitude Composite (Pooled Regions)

C-002

Negro Density	Below $\bar{X}$	Above $\bar{X}$	χ^2
Low	42	82	
High	163	80	35.385 p.<.0001

(C-002) levels and type of community. Only those subjects with no missing data in the variables concerned were included, i.e., 367. The reader should note that at times the N under analysis will fluctuate due to missing data or the nature of the analysis. In large-scale studies, such as Project TALENT, missing data are usually not a major concern; however, due to the limitations and scope of this study, it has become necessary for the author to be concerned with the fluctuating N.

It appears that there are regional differences in terms of the Socioeconomic Environment (SEE) and General Aptitude (C-002) variables. Inspection of the percentages found in Tables 2-5 and 2-6 indicates these regional differences. Subjects from the Northeast-Midwest region tend to come from the 2nd, 3rd, and 4th P*801 quarters, while those from the South tend to come from the 1st and 2nd quarters (the results from the South low Negro density schools are difficult to interpret because of the small sample size). Similar differences appear when aptitude levels between regions are compared; however, the differences are not so pronounced. The few rural Negroes in the Northeast-Midwest region make it again difficult to assess the results found in that subregion. Subjects above the aptitude (C-002) mean in the Northeast-Midwest region tend to come from the 3rd and 4th quarters; this does not hold true for those above the mean from the South. Those below the mean appear to be more evenly distributed across SEE levels in the Northeast-Midwest region. Subjects below the mean from the South tend to come from low socioeconomic environments.

There is a more even distribution of students across SEE levels in the Northeast-Midwest region in the high Negro density school environment than in the South where the greater proportion come from the lower SEE levels (1st and 2nd quarters). Regional comparisons in terms of distributions in the low Negro density schools are not made because of the situation in the South which was discussed previously.

In terms of the urban-rural levels, the small numbers of rural Negroes outside the South make comparisons between regions very difficult. The best that can be stated is the general proportional distributions found in the Northeast-Midwest region still are evident, and the character of the Southern region has not changed from that found in earlier comparisons. It does appear that in the Northeast-Midwest region, subjects above the aptitude mean come from higher SEE quarters than those below the mean within the urban levels. There is an even proportional distribution across SEE levels for those above the total sample aptitude mean in the urban South; this is not true for the remaining aptitude levels in the South (although the above-the-mean rural South level approaches an even distribution). This result could be a function of the small number of subjects found in the cells of the above-the-mean level from the region.

In conclusion, the distribution of the sample appears to be such that students in the Northeast-Midwest region tend to be above the mean in general aptitude (C-002) of the sample, come from higher socioeconomic environments, and attend desegregated

schools in urban areas. Students in the South tend to be below the mean in general aptitude, come from lower socioeconomic environments, and attend segregated schools located in either urban or rural communities (although more students attend urban than rural schools). It is apparent that SEE levels are better represented in the Northeast-Midwest region than in the South, regardless of aptitude or Negro density levels.

Negro Density x Student Factors

To demonstrate the significance of co-factors in an analysis, all regional and community subdivisions were pooled in terms of high and low Negro density; the four P*801 (SEE) levels were pooled to make two levels of high (3-4) and low (1-2) - (Table 2-7); the C-002 (Aptitude Composite) levels remained the same (Table 2-8). The purpose of the following analyses was to look at the effects of Negro density on student factors without the controls of the previous analyses just described.

The results indicate that Negro density is a very significant factor, and that subjects in the sample from high density schools tend to be below the subjects from low density schools in terms of P*801 (SEE) and C-002 (Aptitude). Without considering co-factors, it might be concluded that subjects attending segregated schools tend to be inferior to those attending desegregated schools. The analyses in the previous subsection indicate that there are co-factors that should be considered, such as region and community. Using multidimensional analyses, the next chapter looks at the influence of Negro density in its relationship to

other controls, and in its relationship to the variables measured, to get a clearer picture of its influence.

Discussion

The nature of the distribution within the Northeast-Midwest region was attributed to housing patterns. Negroes in the Northeast and Midwest who, in 1960, attended schools that had predominately white school populations did not live in Negro ghettoes and hence tended to come from middle and upper socioeconomic backgrounds. The reader should note that the "neighborhood school" in 1960 was still the prevailing concept found in most urban school districts. In addition, there is a high positive correlation between socioeconomic environment and the tests that make up the general aptitude score. SEE has a significant influence on general aptitude; it is not surprising to find the students who attend the low Negro density schools to be above the mean of the sample on C-002. There is also the fact that higher SEE groups tend to respond to questionnaires in greater number than do lower SEE groups. Because of the number of rural Negroes, it becomes difficult to try to interpret the results in this area.

Negroes who live in the Southern United States tend to have lower socioeconomic backgrounds than those who live outside the region. In 1960, one could question the quality of education available to Negroes in the South. These two factors, plus the relationship of SEE to aptitude, could possibly explain the preponderance of low socioeconomic and aptitude levels of subjects who make up the sample from the South. Although higher SEE groups

tend to respond to questionnaires, it is possible that those from the South who did respond might have middle-class values and/or perceive themselves as being "middle class" even though they do not belong to the "upper" socioeconomic levels of the total sample (including all geographic regions). Again due to the lack of students attending desegregated schools in the South, interpretation of their results does not appear to be relevant.

Employment

Another dimension of the sample that was explored was whether or not an individual had a full-time position as of October 1, 1965. (Only those who were in the labor market, as of October, were considered.) Individuals who indicated that they were employed 20 hours or more per week and didn't indicate other primary activities (i.e., full-time student) were considered full-time employees; if they indicated employment on a part-time basis for less than 20 hours and didn't indicate other primary activities, they were considered unemployed. Full-time students, those who could not work because of health reasons, and those who for other legitimate reasons could not be employed were considered out of the labor pool. The following table (2-9) gives the breakdown of the frequencies and percentages based on the available labor pool (N=351). Hoyle and Ryscavage (19) reported that the unemployment rate for Negroes in the United States for 1965 was 7.5 per cent. Thus, it appears that the sample's unemployment rate mirrored that of the unemployment rate of the Negro population in the United States.

Table 2-9

Employment Distribution

Category	Number	Percentage
Employment (full-time)	323	92.02*
Unemployed	28	7.98*
Out of the Labor Pool	55	
Sample with available data	406	

*Based on available labor pool of 351

College Attendance

College experience appears to be quite common in the total Negro male sample--41.5 per cent of the sample had either attended college or were in college as of October 1, 1965 (Table 2-10). These data reinforce the assumption that the sample is atypical of the Negro population. One interpretation that can be made concerning college attendance is that the Negroes in the sample view themselves as middle-class, hence the middle-class value of college attendance. It is also possible that the sample is reflecting the new importance and emphasis put on higher education by the Negro community.

Table 2-10

College Attendance of the Male Negro Sample (N=410) as of October 1, 1965

Presently Attending Full-time Graduate School	15
Presently Attending Full-time Undergraduate School	31
Present Part-time Attendance in Undergraduate School	16
Present Part-time Attendance in Graduate School	6
Had attended college	102
Total	170

Applicability of Weighted N

In order to reproduce the national population represented by the sample in this study, a weight (Weight A) based on the original sampling ratios was applied to the respondents.[1] The 4 per cent sample of nonrespondents had Weight A times 25 applied to them. Weight A is the same for all students in a school. It equals the reciprocal of the sampling ratio, divided by the proportion of the invited schools in its category (on the basis of the stratification variables) that agreed to participate in Project TALENT. It corrects for differential sampling ratio and acceptance rate simultaneously. Thus there were varying weights applied to respondents and nonrespondents depending on the schools attended. It

[1] Refer to Chapter 3 in the One-Year Follow-up Studies (14) for a further description of the use of weights in the Project TALENT sample.

is of interest to note the large number of male Negroes who were in the national 1960 12th-grade population represented by the sample in this study (refer to Table 2-11). It is evident that due to the small size of the sample, one must be careful in interpreting the weighted N's and the subsequent effects sample size would have on any analysis dealing with such weighted N's. The scarcity of subjects and the subsequent high weights generated by this situation lend credence to the wisdom of not including the Southwest and West in the analysis--even as weighted N's. In fact, weights were not used in any of the analyses.

Table 2-11

Weights (by Weight A) and Non-Weights of the Sample as Representative of the 1960 12th-grade Male Negro

Regions	Urban			Rural		
	Unweighted N	Weighted N	Weighted Percentages	Unweighted N	Weighted N	Weighted Percentages
Northeast-Midwest	156	147,590	45.9	21	9,390	10.1
South	113	139,900	46.9	77	71,430	77.5
Southwest	6	6,340	2.1	3	11,480	12.4
West	6	15,150	5.1			
Σ	281	308,980	100.0	101	92,300	100.0

Chapter 3

Analyses of Student, Employment, and Environmental Variables

Testing Student and Employment Variables

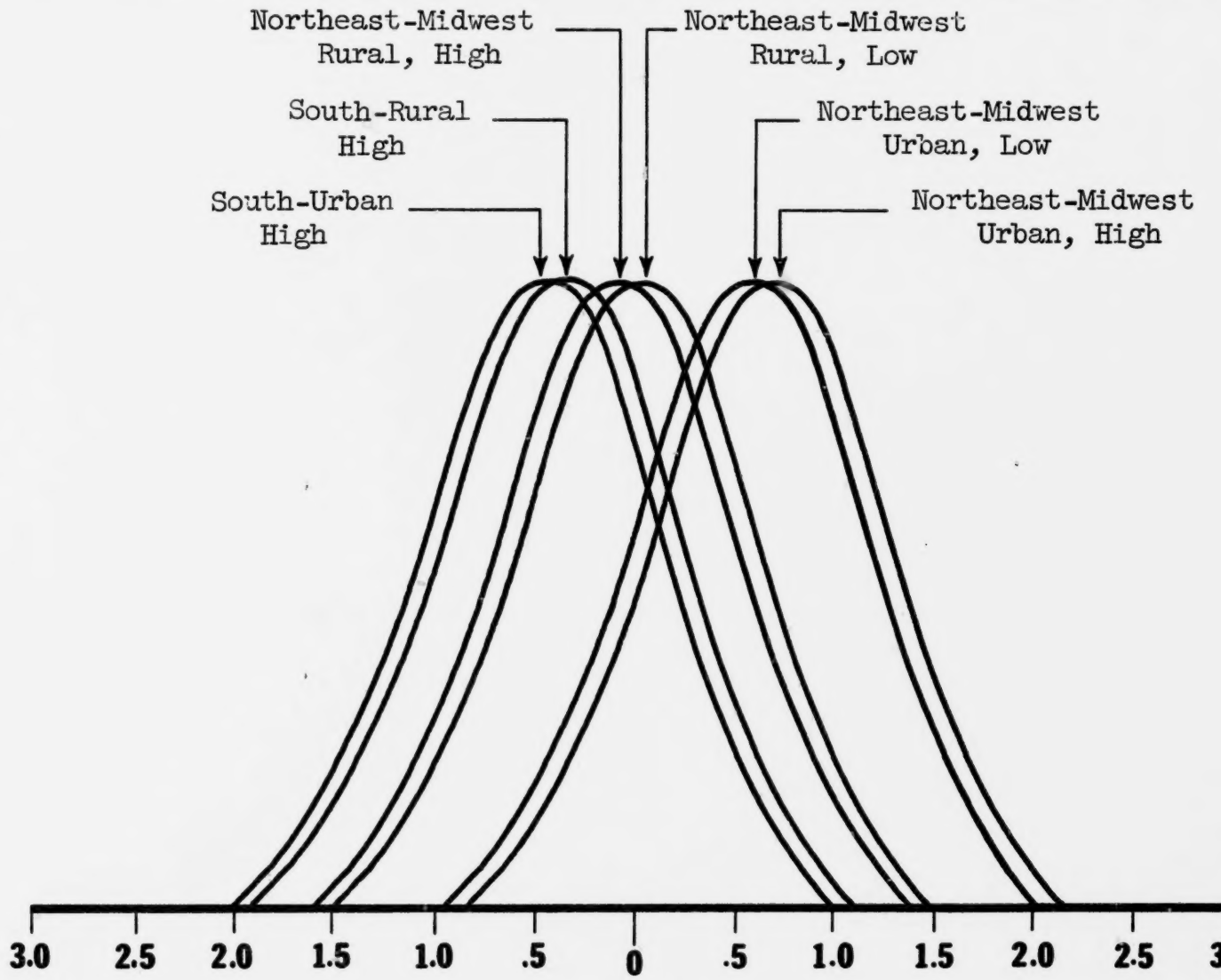
A partial canonical discriminant analysis was the statistical procedure used to test the null hypothesis dealing with the uniqueness of the environmental-parameter groups as related to post-high-school employment adjustment and student factors. Environmental-parameter groups were classified according to region (Northeast-Midwest, South); Community (urban, rural); and Negro density (high, low). The basic assumption was that environmental effects could be identified if either the environmental-parameter groups were unique to each other, or sets of groups were unique. The antithesis would be that if environmental effects were not present, the groups would not be unique to each other. The analysis was also able to identify criterion variables that would be most significant in discriminating among groups. The technique used is a variant of the technique of multivariate analysis of variance.

The environmental and student variables employed have already been described under the section in Chapter 1 titled "Variables Used and Definition of Terms." The post-high-school employment adjustment variables were described in that section. Because rise of earning power was one variable used, only subjects in the Northeast-Midwest and South who were full-time employees (20 hours or more per week) on October 1, 1965, were included in the analysis.

The number of years on a particular job as of October 1 (job stability) and the level of post-high-school education in preparation for employment [continuous variable scaled from 0 (no post-high-school education) to 7 (advance degree earned)] can have significant effects on the starting and present salaries, since it is obvious that individuals start jobs at different salaries, at different times, and progress at different rates. Hence the two variables could confound the picture. Therefore, job stability and level of post-high-school education were partialed from the other variables. Refer to Appendix B for a description of these variables.

The axis in Figure 3-1 represents the only significant ($p.<.001$) discriminant function. The other functions did not reach significance levels. The variables' correlations with the discriminant function are listed below the axis. In each case the actual correlation between the variable and the canonical variate (function) is indicated in parentheses. The number of subjects in each group is found in Table 3-1.

The General Academic Aptitude Composite (C-002) had the largest correlation and hence contributed most to the separation of the six groups along the function. The fact that the correlation was positive indicates that a high score on this measure is related to a high score along the function. The Socioeconomic Environment Index (P*801) had the second largest correlation, which was almost equal to the C-002 correlation. P*801 also had a positive correlation. Rise of earning power had the third



Function I

S.D. = .731

% Trace = 27.328

Job Satisfaction (-.091)

Number of Jobs (.107)

Rise of Earning Power (.464)

P*801 (.622)

C-002 (.827)

Figure 3-1

Discriminant Function Centroids of Six Region-Community-Negro Density Groups with Job Stability and Post-High-School Education Partialed

largest correlation; it, too, was positive. However, it was hardly more than half the size of the C-002 correlation.

Table 3-1

Number of Subjects in Each Region-Community-Negro Density Group

Northeast-Midwest-Urban, Low	67
Northeast-Midwest-Rural, Low	7
Northeast-Midwest-Urban, High	29
Northeast-Midwest-Rural, High	10
South-Urban, High	57
South-Rural, High	54
Total	224

Function I in Figure 3-1 is, in effect, a measure of socially valued attributes, in that intelligence, status, and earning power are certainly valued in the American society, and that variables measuring such attributes had the highest loadings on the first function. The magnitude of the correlations of these three variables indicates that they were doing most of the work in separating the six groups. These variables arranged the groups into three points: The Northeast-Midwest, urban groups had essentially identical scores on the function; the Northeast-Midwest, rural groups were almost identical; and the groups from the South were identical.

The average within-group standard deviation and the per cent of trace associated with the function are noted in the figure.

Group homogeneity is indicated by the standard deviation. When the centroids of a pair of groups are close together and the standard deviation is relatively large, a considerable overlap in the distributions on the function is indicated. A pair of groups under these conditions would not be considered unique.

The trace represents the total discriminating power of the five variables utilized in the discriminant function. The significant function in Table 3-2 accounted for 27.33 per cent of the total discriminating power possessed by the five variables. It is of interest to note that when the amount of trace accounted for by the next two nonsignificant functions is added to the trace of the function just described, the total amounts to 69.06 per cent. Thus, it appears that the first three functions are almost equal in discriminating power. (It is also interesting to note that the second function is an employment continuum; however, the level of significance needed to reject a chance hypothesis was not reached.) The amount of variance accounted for by the first function was 26.9 per cent of the total variance. In relationship to the other functions (5.4 per cent, 2.9 per cent, 2.8 per cent, .05 per cent), it appears that the first function does account for a significant amount of the variance.

The means and standard deviations of the variables by regions are listed in Table 3-3. (Job stability and post-high-school education were not partialed.) The rise of earning power variable appears to have the widest variability; the subjects from the South had the lowest rise, except for the Northeast-

Table 3-2

Canonical Correlations with Variable-Canonical Variate Correlations and Per Cent of Trace

Canonical R	Job Satisfaction	Number of Jobs	Rise of Earning Power	P*801	C-002	Per cent of Trace
.519	-.091	.107	.464	.622	.827	27.328
.233*	.241	.586	-.443	-.363	.298	21.716
.173*	.455	-.212	-.526	.573	-.094	20.015
.116*	-.163	-.752	-.202	-.305	.463	17.361
.023*	-.837	.186	-.520	.244	.061	13.580

*Did not reach levels of significance to reject hypothesis of chance.

Table 3-3

Region-Community-Negro Density Group Means and Standard Deviations of Subjects Employed Full-time*

	Northeast-Midwest Urban, Low		Northeast-Midwest Rural, Low		Northeast-Midwest Urban, High		Northeast-Midwest Rural, High		South Urban, High		South Rural, High	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Job Satisfaction	3.63	1.29	4.00	1.07	3.83	0.88	3.40	1.20	3.75	1.19	3.87	0.98
Number of Jobs	2.59	1.33	2.57	1.29	2.28	1.28	1.90	1.64	2.11	1.31	2.69	1.73
Rise of Earn. Power(yrly.)	906.51	950.38	264.00	328.12	822.07	744.56	1028.00	934.57	510.46	709.68	460.37	639.27
P*801	91.61	8.11	85.86	9.67	95.21	8.10	86.40	8.77	87.44	8.76	85.61	9.65
C-002	462.84	105.53	456.29	150.07	469.93	112.33	402.30	104.99	369.74	103.65	365.37	111.07

*Post-high-school education and time on the job have not been partialed.

Midwest, rural, low density group. In terms of percentages, there were more subjects in the Armed Forces from the Northeast-Midwest, rural, low density region than from any of the other regions (28.6 per cent); the next highest region had 6 per cent. Thus a suppressive effect on the rise of earning power variable resulted. Due to the low number of subjects --7-- in the rural, low density, Northeast-Midwest cell, no definite interpretation has been attempted to explain the low rise found in the cell in relation to the other cells. It should be noted that there were only ten subjects in the Northeast-Midwest, rural, high density group with no one in the Armed Forces and 30 per cent holding white-collar positions (the next highest region had 20 per cent holding white-collar jobs). Since this would have an inflationary effect on the earning power variable, any interpretation of this situation should be made cautiously.

Discussion

The variables that are socially valued in our society (SEE, aptitude, earning power) provide the discriminative power when the influences of time on the job and levels of post-high-school education are partialed.

Other results from the partial canonical discriminant analysis indicate:

1. Regional differences between schools in the Northeast-Midwest and South, favoring the Northeast-Midwest school subjects do exist.

2. Within the Northeast-Midwest region, there are community

differences between urban and rural schools, favoring those in the urban communities.

3. Students in rural and urban communities in the South are fairly similar in terms of the variables considered.

4. Northeast-Midwest urban subjects are "better off" along the function than Northeast-Midwest rural and Southern subjects in that order.

5. Limitations of this study precluded finding clear evidence on the effects of Negro density.

It appears that there are environmental factors that do have an effect on post-high-school employment adjustment and student factors. The environmental factors are community and regional differences among schools; however, Negro density is <u>not</u> one of the significant effective factors.

Table 3-4

Correlations of Student and Post-High-School Adjustment Variables

	Job Satis-faction	No. of Jobs	Rise of Earn. Power	P*801	C-002
Job Satisfaction	1.000	.000	.062	-.028	-.132
Number of Jobs	.000	1.000	-.148	-.044	-.101
Rise of Earning Power	.062	-.148	1.000	.074	.076
P*801	-.028	-.044	.074	1.000	.295
C-002	-.132	-.101	.076	.295	1.000

The zero-order correlations (Table 3-4) indicate that almost all the variables were orthogonal to each other, and that P*801 and C-002 were initially relatively independent of the other variables. It was felt that partialing P*801 and C-002 (in addition to time on the job and post-high-school education) would give an assessment of the residual discriminatory power of the first function.

Testing the Residual Discriminating Power

The six groups could not be significantly differentiated when the number of co-variates was increased from two to four (P*801, C-002, time on the job, and post-high-school education). Rise of earning power had a loading of .464 in the first analysis; in the present analysis, the variable had a loading of .929 on the first function. However, it is clear that what was left of the variable after partialing was not strong enough to be used to discriminate among groups. It is also evident that the student factors in linear combination with rise of earning power had the major discriminatory power in the first function.

Testing Employment Variable Discrimination

Because it was not known what was left of the post-high-school employment adjustment variables after P*801 and C-002 were partialed, it was decided to run a partial canonical discriminant analysis without the student factors to assess the discriminatory power of the employment variables.

The resulting function, as illustrated in Figure 3-2, reached the .06 level of significance, the only discriminant function to

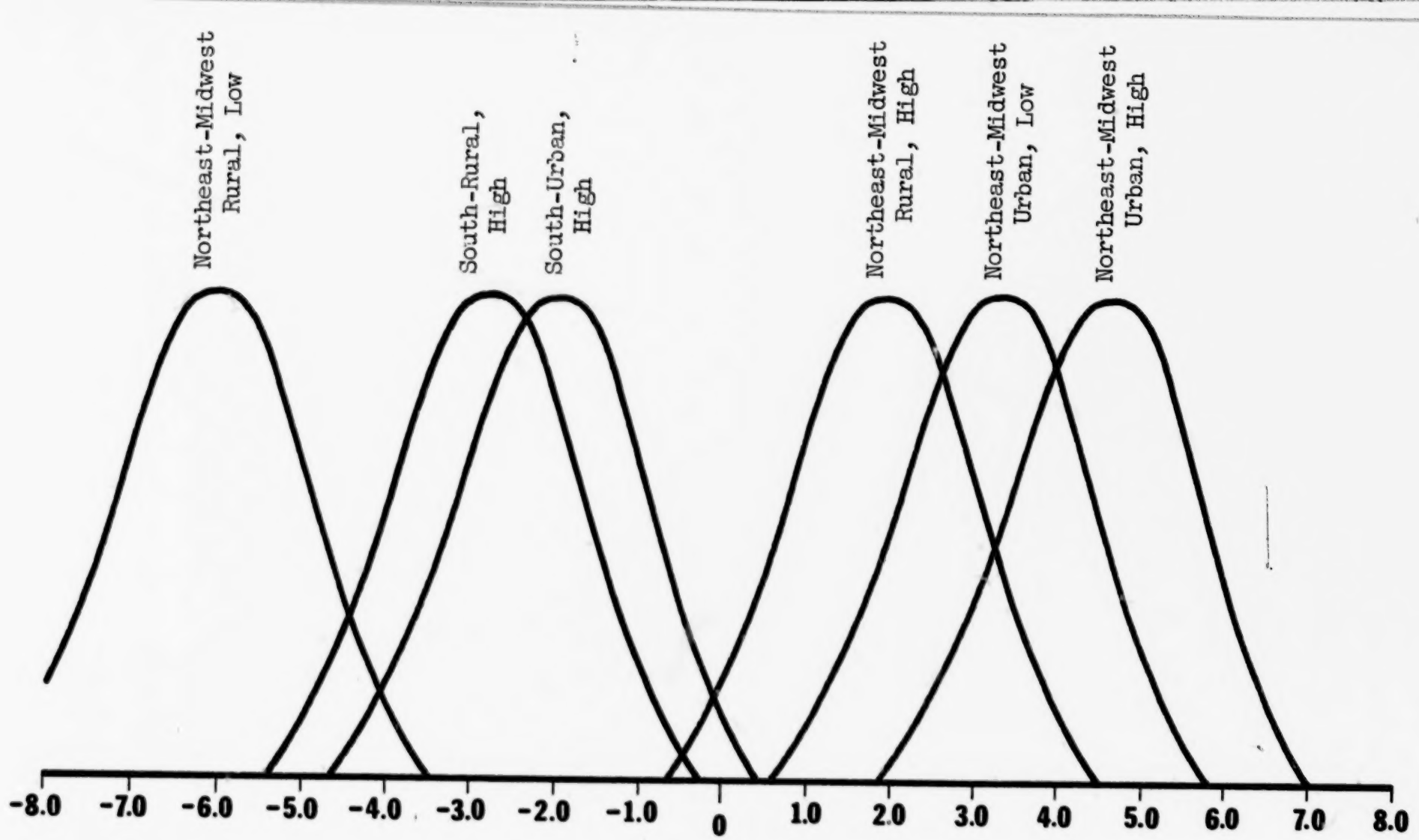


Figure 3-2

Discriminant Function Centroids of Six Region-Community-Negro Density Groups with Job Stability and Post-High-School Education Partialed

reach that level. The correlations of the variables with the discriminant function are found below the axis in parentheses.

Function I (Figure 3-2) is an earning power function, with rise in earning power being the heaviest contributor with the largest correlation. The fact that the correlation is positive indicates that a high score on this scale is related to a high score along the function. It appears that rise in earning power is the only variable that separated the six groups along the function, arranging them into three unique groups:

1. The Northeast-Midwest, urban group and the Northeast-Midwest rural, high density group, are in the same centroid space;

2. Groups from the South are identical; and

3. The Northeast-Midwest, rural, low density group.

The discriminant function accounted for 36.30 per cent of the total discriminating power possessed by the three variables. The remaining two nonsignificant functions (not described) accounted for 33.41 and 30.29 per cent, respectively. Number of jobs loaded heaviest (.979) on the second function, and job satisfaction loaded heaviest (.933) on the third. The first function accounted for only 9 per cent of the total variance (Canonical R=.301), and the second and third functions accounted for 1 per cent (Canonical R=.177) and 0.3 per cent (Canonical R=.059), respectively. Although the first function did account for the largest amount of total variance, it did not appear to be a very powerful discriminator.

Discussion

With student factors not involved in the analysis and time on the job and levels of post-high-school education partialed, rise of earning power provides the most discriminative power.

Regional differences appear, with subjects attending schools in the Northeast-Midwest region generally in a higher position, in terms of the function, than those in the South. Community differences within the Northeast-Midwest region appear to be present; however, these differences have been caused by the level of earning power of subjects in the Northeast-Midwest, rural, low density group. The factors causing the low level of earning power have been discussed in the previous section, and consequently any community differences should be interpreted with extreme caution. There does not appear to be any noticeable effect of Negro density on the results found.

The environmental factors, except for the percentage of Negroes in a school, have an effect on employment variables. These effects appear to be similar to those found when P*801 and C-002 were in the analysis.

Testing the Influences of the Environmental Variables

A multivariate analyses of variance (16) was used to test the effects of the environmental factors on the dispersion of the centroids along the discriminant functions found in the partial canonical discriminant analyses. Regional effects reached the .001 level of significance ($F=14.04$, 5 and 212 d.f.) with

time on the job and post-high-school education partialed from the criterion variables (student and employment variables). Where only employment variables were used as the criterion variables, with time on the job and post-high-school education partialed, regional effects reached the .005 level of significance ($F=4.92$, 3 and 214 d.f.). Negro density and community factors did not reach levels of significance in either analysis; there were no significant interactions.

The univariate tests in the multivariate analyses indicate that the variables in each set of criteria had the same significant relationships that were found in the discriminant functions of the partial canonical discriminant analyses described in previous sections of this chapter. Because of the redundancy of the results, the univariate F ratios will not be reported.

Discussion

The results indicate that there are significant differences among centroids, and that the differences can be attributed to the effects of region. Thus the second null hypothesis concerning the differences among groups due to environmental factors can be rejected, but only in terms of regional differences; differences generated by the community and Negro density parameters were not significant.

Summary

A comparison of the socially valued function with the earning power function indicates that the former is the more powerful of the two in terms of discriminatory value. The best

discrimination among groups can be done in terms of individual differences. It is more difficult to distinguish among the groups when comparing them along employment variables.

It is possible that the position of the Negro in the American society has a suppressive effect on the variability of subjects once they leave the relatively protected, and in some cases artificial, school environment. Hence, student factors (measured while in school) provide better discrimination than do factors, such as post-high-school employment variables, that are affected by the economic and social inequalities faced by Negroes in all sections of the country.

The six groups were not unique to each other, but in the two major analyses just described the groups were divided into three unique centroid spaces. Although the subgroups in the three unique spaces were not identical in each analysis, it does appear that the environmental factors had similar effects, similar to the extent that there were regional and community differences among schools and no Negro density effects. They were <u>not</u> similar when group positions along the functions were compared. Subjects from the South were below all Northeast-Midwest groups in terms of the socially valued function, and below all Northeast-Midwest groups but one in terms of earning power. The small number of subjects and the high proportion in the Armed Forces in the Northeast-Midwest, rural, low density group could possibly be the factors that generated the lowest earning power of the six groups. Positions of communities along the functions were

different in the two analyses (although the differences among communities in both analyses were not significantly different); there was little difference among communities in the South along both functions; urban Northeast-Midwest groups were higher than their rural counterparts along the socially valued function, with the reverse along the earning power function. This reversal would have to be accepted with extreme caution due to the fact that the result occurred within a centroid space where all the elements are considered identical and because of the factors affecting the Northeast-Midwest rural, high density group that have been discussed earlier in this chapter. Within the limits just described, it would be safe to reject the null hypothesis that environmental-parameter groups cannot be distinguished in terms of post-high-school educational adjustment and student factors. Although the environmental-parameter groups can be distinguished, the differences were generated more by regional influences than by the influences of community and/or Negro density factors.

The results indicate that subjects in this study attending schools in the Northeast-Midwest region of the country are "better off" socially and intellectually than those from the South. Income is not so clear-cut, although subjects from the Northeast-Midwest generally had higher income gains than those from the South. The proportion of Negroes in the student body of a school doesn't appear to have an effect on the post-high-school employment adjustment variables or student factors studied. Regional difference among schools, and not community differences or racial

composition, was the most influential environmental factor.

The effect of Negro density found in the analyses is quite different from that found in the previous chapter, where only density by student factors was compared without considering co-factors. The conflicting results should indicate to the reader the complexities inherent in the evaluation of the segregation-nonsegregation problem, and that what appears on the surface might not in reality be an accurate description of the situation.

Chapter 4

Analyses of Post-High-School Education Variables

Using responses to several questions on post-high-school adjustment found in the five-year follow-up questionnaire (Table 4-1), amount and type of post-high-school education were studied. After the amount (none-additional) was considered, additional education was further broken down into technical and college levels. Technical level includes all individuals who had technical institutional training whether completed or not; college level includes junior and senior college attendance whether completed or not. In terms of planned post-high-school education, it was felt that those who didn't have additional education (N=120) would be different from those (N=240) who had elected to continue their education beyond high school. Therefore, the subjects were divided into "no post-high-school education" and "had post-high-school education" groups. Each subdivision was studied in terms of planned additional education.

Discussion

Within all regions, the number of subjects who elected to continue their education beyond high school was greater than the number viewing their high-school education as terminal. Subjects were also more likely to attend colleges than noncollege institutions, in their continuing educational careers. However, the proportional differences between college and noncollege attendance do not appear to be very large.

From these data, it was concluded that the greater proportion

Table 4-1

Proportion of Responses to Post-High-School Education and Planned Post-High-School Education by Region-Community-Negro Density Groups

Groups	Post-High-School Educ.		Post-High-School Educ.		Planned Post-High-School Educ.			
Region-Community-Negro Density	None	Add'l. Educ.	Tech.School (non-college)	College	No Post-H.S. Educ. None	Add'l.	Post-H.S. Educ. None	Add'l.
I NE-Midwest-Urban-Low*	(31)	(78)	(36)	(42)	(21)	(10)	(35)	(43)
	.284	.716	.462	.538	.677	.323	.449	.551
II NE-Midwest-Rural-Low*	(3)	(5)	(2)	(3)	(3)	(0)	(1)	(4)
	.375	.625	.400	.600	1.000	0.000	.200	.800
III NE-Midwest-Urban-High*	(8)	(39)	(20)	(19)	(6)	(2)	(16)	(23)
	.170	.830	.513	.487	.750	.250	.410	.590
IV NE-Midwest-Rural-High*	(4)	(9)	(3)	(6)	(3)	(1)	(3)	(6)
	.308	.692	.333	.667	.750	.250	.333	.667
V South-Urban-High*	(40)	(69)	(23)	(46)	(28)	(12)	(22)	(47)
	.367	.633	.333	.667	.700	.300	.319	.681
VI South-Rural-High*	(34)	(40)	(18)	(22)	(29)	(5)	(18)	(22)
	.459	.541	.450	.550	.853	.147	.450	.550
Σ	(120)	(240)	(102)	(138)	(90)	(30)	(95)	(145)

*Number of subjects in each cell is found in parentheses.

of subjects had availed themselves of the opportunity to continue their education, and that those who did tended to go to college. These results illustrate the atypicalness of the sample and further reflect the bias that appears in studies dealing with voluntary respondents to follow-up questionnaires.

The proportion of subjects who did not have post-high-school education and did not plan to acquire additional education was greater than the proportion of subjects who did not have post-high-school education but planned to further their education. The reverse situation occurred with those who did have additional schooling. These results indicate that those who were previously motivated to acquire additional education view the necessity for further education to a greater extent than those with no previous post-high-school education. This awareness might be the result of: (1) being predisposed to additional education, (2) additional education already acquired requiring further education, (3) the social acceptability of planning additional education, and (4) students who continue their education after high school being different from those who don't continue their education in terms of school experiences and individual differences.

Those who didn't have post-high-school education might not initially view the importance of continuing education. There might also have been a cost factor that prevented further education after high school or additional post-high-school education. It is also possible that the educational program taken in high school prevented many from continuing their educational career.

Environment Effects

The interaction and isolated effects of region, community, and Negro density on responses to the post-high-school adjustment questions were studied. Individual environmental factors were tested to determine if such effects might be masked within the total interaction. In order to isolate, as much as possible, the unique effects of an individual environmental factor, the remaining environmental factors were used as controls. When regional effects were studied, community and Negro density were controlled; when community effects were studied, region and Negro density were controlled; and when Negro density was studied, region and community were controlled. As a result of the nature of the sample and the scaling properties of the variables studied, nonparametric procedures were used. Chi-square to test the null hypothesis that the distributions did occur by chance was used. It was assumed that if a pattern of significant chi-squares appeared when an isolated environmental factor was studied, the isolated environmental factor under study had a significant effect on the post-high-school adjustment variable(s). To further clarify this position, the reader is referred to Table 4-2. If significant chi-squares appeared in both cells of post-high-school education (none-additional) by regions, it could be concluded that the regional differences did not occur by chance; if a pattern of significant chi-squares occurred across rows of individual environmental factors, it could be concluded that within the level of the individual environmental factors nonrandom effects occurred.

Table 4-2

Chi-squares of Comparisons for Regional, Community, and Negro Density Effects

	Post-high-school educ. (None-additional)	Post-high-school educ. (Technical-college--non-college)	Planned post-high sch. ed. (No post-h.s. educ.--none-additional)	Planned post-high sch. ed. (Had post-h.s. educ.--none-additional)
Group Comparisons				
Region (NE-S)[1]				
Urban High III-V	5.080*	2.643	.020	1.431
Rural High IV-VI	.510	.071	.036	.071
Community (Rural-Urban)[2]				
NE - Low I-II	.020	.038	.257	.387
NE - High III-IV	1.205	1.014	1.652	1.353
South-High V-VI	.497	.362	.500	.002
Negro Density (High-Low)[3]				
NE - Rural II-IV	.025	.111	.024	.008
NE - Urban I-III	1.715	.107	.001	.034
Interaction-Total Groups Comparison	13.670**	4.454	4.326	4.095

[1] Community and Negro Density Controlled

[2] Region and Negro Density Controlled

[3] Community and Region Controlled

* Approaches the .02 level of significance (d.f.=1)

** $p. < .02$, d.f.=5

(The chi-squares found in Table 4-2 were computed from data found in Table 4-1).

Discussion

Only one significant nonrandom distribution was found for interaction (χ^2=13.670, p.<.02) among the total environmental factors in terms of the differences between additional post-high-school education and none. Closer inspection of the effects of the individual environmental factors indicated that subjects from Region III (Northeast-Midwest, urban, high Negro density) were far more likely to have additional education than those from Region V (South, urban, high density); this difference did not occur by chance (χ^2=5.080, approaches .02). It was concluded that the significant interaction found was generated by the non-random difference between Regions III and V.

This significant difference found between the two regions might have been due to the availability of more post-high-school educational institutions in the Northeast-Midwest urban areas than in the Southern urban areas. No differences were found when the two regions were compared at the rural level. It should be noted that regional comparisons could not be made on low Negro density levels because of the absence of low density schools in the South. However, to conclude that the Northeast-Midwest Negro who lived in the city and attended a high Negro density school would most likely have more additional education than his counterpart from the South would be tenuous. It is also quite possible that the significant χ^2 was generated by chance itself, inasmuch

as no other significant chi-squares occurred out of the 56 comparisons.

No patterns of rejection of the null hypothesis developed. It was concluded that differences found within regional, community, and Negro density groups occurred by chance. The differences in the post-high-school adjustment variables (types of post-high-school education, and planned post-high-school education) of subjects were not significantly affected by the section of the country, type of community, or the percentage of Negroes in the school attended. Hence the third major null hypothesis that there are no significant selected environmental factors influencing types of post-high-school education acquired and future educational plans was not rejected.

Again the results found could possibly be attributed to: (1) the atypicalness of the sample; and/or (2) Negroes in the sample possibly perceiving themselves as middle class or above and not being affected by regional, community, or Negro density differences in terms of the variables studied. (Generally subjects who respond to questionnaires are of a higher socioeconomic status than those who don't respond.)

Summary

More subjects had additional education than not, and more attended college than noncollege institutions. Subjects who elected not to continue their education beyond high school tended not to plan additional education; while those who did have additional education planned further education.

Only one significant nonrandom distribution occurred, and it would be difficult to arrive at an explanation for reasons already enumerated. No patterns of significant differences occurred; therefore, it appears that Negro density, regional, and community differences among schools did not affect additional education acquired or planned.

The results of the analysis just discussed indicate that the subjects might view themselves as middle class or above with similar educational aspirations, and therefore tend to be homogeneous in this respect, regardless of the environmental effects studied.

Commentary

The major concern of this study was to evaluate the effects of Negro density, community, and regional differences on post-high-school adjustment and student factors for Negro males. Three specific null hypotheses were tested. Two were rejected as a result of analyses that found: (1) environmental-parameter groups could be distinguished from each other; and (2) significant differences were generated by regional influences, but not by community and Negro density factors. The third null hypothesis was not rejected as a result of the analyses that found no significant environmental factors influencing types of post-high-school education acquired and projected.

The rejection of the first two hypotheses might have been a function of the mediating influence of environmental factors on student and employment variables, vis-a-vis social status, amounts spent on education, quality of education, and occupational opportunities across environmental levels; while the nonrejection of the third hypothesis indicated that environmental factors did not significantly influence the educational goals that were studied. It is also apparent that certain variables provided better discriminatory power than others, and that a multivariate approach gives a clear picture of the important and significant variables that need to be studied.

In the near future Project TALENT will be making many analyses of data collected from the five-year follow-up questionnaires sent to students from the 11th, 10th, and 9th grades of the

original 1960 TALENT sample. It is hoped that some of the analyses will focus on the same concerns as this study, and that more definitive evidence will be found concerning the issues explored here on a preliminary basis.

Throughout this study it has become rather obvious that the proportion of Negroes attending a school, per se, might not be as important as regional and community differences among schools in the United States. Further investigation of regional and community differences might be more profitable than focusing on the effects of the racial composition of student bodies on Negroes. This research indicates a need to develop a long-range panel study of a large number of stratified randomly sampled male Negroes, across all levels of regions and communities, to assess the results found in this study before definitive conclusions can or should be made.

References

1. Bloom, B. S.; Davis, A.; and Hess, R. Compensatory Education for Cultural Deprivation. New York: Holt, Rinehart & Winston. 1965.

2. Bogue, D. J.; Misra, B. D.; and Dandekar, D. P. "A New Estimate of the Negro Population and Negro Vital Rates in the United States, 1930-1960," Demography, I (1), 1964. p. 339-358.

3. Burket, G. R. Selected Pupil and School Characteristics in Relation to Percentage of Negroes in School Enrollment. Technical report, Cooperative Research Project No. 635, Office of Education, U. S. Department of Health, Education, and Welfare. Pittsburgh: Project TALENT, University of Pittsburgh. 1963.

4. Coleman, J. C.; Campbell, E.; Holson, C.; McPartland, J.; Mood, A.; Weinfeld, F.; and York, R. L. Equality of Educational Opportunity. U. S. Office of Education, U. S. Department of Health, Education, and Welfare. Washington: Government Printing Office. 1966.

5. Coster, T. R. "Some Characteristics of High School Pupils from Three In-Groups," Journal of Educational Psychology, L, 1959. p. 55-62.

6. Davis, A. Social-Class Influences Upon Learning. Cambridge: Harvard University. 1948.

7. Derbyshire, R. L. Personal Identity: An Attitude Study of American Negro College Students. Unpublished dissertation, University of Maryland. 1964.

8. Derbyshire, R. L., and Brody, E. B. "Marginality, Identity, and Behavior in the American Negro: Functional Analysis," International Journal of Social Psychiatry, X, 1964. p. 7-13.

9. Dreger, R. M., and Miller, K. S. "Comparative Psychological Studies of Negroes and Whites in the United States," Psychological Bulletin, LVII, 1960. p. 361-402.

10. Eels, K.; Davis, A.; Havinghurst, R. J.; Herrick, V.; and Taylor, R. W. Intelligence and Cultural Differences: A Study of Culture Learning and Problem Solving. Chicago: University of Chicago Press. 1951.

11. Flanagan, J. C.; Dailey, J. T.; Shaycoft, Marion F.; Gorham, W. A.; Orr, D. B.; and Goldberg, I. Design for a Study of American Youth. Boston: Houghton Mifflin. 1962.

12. Flanagan, J. C.; Dailey, J. T.; Shaycoft, Marion F.; Orr, D. B.; and Goldberg, I. Studies of the American High School. Final report, Cooperative Research Project No. 226, Office of Education, Department of Health, Education, and Welfare. Pittsburgh: Project TALENT, University of Pittsburgh. 1962.

13. Flanagan, J. C.; Davis, F. B.; Dailey, J. T.; Shaycoft, Marion F.; Orr, D. B.; Goldberg, I.; and Neyman, C. A. The American High-School Student. Final report, Cooperative Research Project No. 635, U. S. Office of Education, Department of Health, Education, and Welfare. Pittsburgh: Project TALENT, University of Pittsburgh. 1964.

14. Flanagan, J. C.; Cooley, W. W.; Lohnes, P. R.; Schoenfeldt, L. F.; Holdeman, R. W.; Combs, Janet; and Becker, Susan J. Project TALENT One-Year Follow-up Studies. Final report, Cooperative Research Project No. 2333, Office of Education, Department of Health, Education, and Welfare. Pittsburgh: Project TALENT, University of Pittsburgh. 1966.

15. Gershenfeld, W. The Negro Labor Market in Lancaster, Pennsylvania. Unpublished dissertation, University of Pennsylvania. 1964.

16. Hall, C. E., and Cramer, E. M. A General Purpose Program to Compute Multivariate Analysis of Variance on an IBM 7090 Computer. Washington, D. C.: George Washington University, The Biometric Laboratory. 1962.

17. Heiman, R. A., and Schenk, Q. F. "Relations of Social Class and Sex Differences to High School Achievement," School Review, LXII, 1954.

18. Holdeman, R. W.; Flanagan, J. C.; Cooley, W. W.; and Shaycoft, Marion F. The Project TALENT Data Bank. Pittsburgh: Project TALENT, University of Pittsburgh and American Institutes for Research. 1965.

19. Hoyle, K. D., and Ryscavage, P. M. "The Employment Situation in 1965," Monthly Report on the Labor Force. U. S. Department of Labor. 1965.

20. Knief, L. M., and Stroud, T. B. "Intercorrelations among Various Intelligence, Achievement, and Social Class Scores," Journal of Educational Psychology, L, 1959. p. 117-120.

21. Lipset, S. M.; Trow, M.; and Coleman, J. Union Democracy. Garden City: Doubleday & Company, Inc. 1962.

22. Mussen, P. H. "Differences Between TAT Responses of Negro and White Boys," Journal of Consulting Psychology, XVII, 1953. p. 373-376.

23. National Industrial Conference Board. Company Experience with Negro Employment. New York: National Industrial Conference Board. 1966.

24. Nichols, R. C. Heredity, Environment and School Achievement. Symposium: Heredity and Environment: Renewed Examination of an Old Topic. Annual Meetings, American Education Research Association, New York, February 1967.

25. Pettigrew, T. F. "Extending Educational Opportunities: School Desegregation," Contemporary Issues in American Education. White House Conference on Education, July 1965.

26. Roberts, R. J., and Nichols, R. C. Participants in the National Achievement Scholarship Program for Negroes. National Merit Scholarship Corporation. 1966.

27. Rosen, B. C., and D'Andrade, R. "The Psycho-Social Origins of Achievement Motivation," Sociometry, XXII, 1959. p. 185-218.

28. St. John, Nancy Hoyt. "The Effects of Segregation on the Aspirations of Negro Youth," Harvard Educational Review, XXXVI, 1966.

29. Shaycoft, Marion F. The High School Years: Growth in Cognitive Skills. Interim report 3, Cooperative Research Project No. 3051, Office of Education, U. S. Department of Health, Education, and Welfare. Pittsburgh: Project TALENT, American Institutes for Research and University of Pittsburgh. 1967.

30. Siegel, J. S., and Zelnik, M. An Evaluation of Coverage in the 1960 Census of Population by Techniques of Demographic Analysis and by Composite Methods. American Statistical Association, Social Statistics Section 1966, Washington, 1966.

31. Stewart, R. A. A Study of Factors in the Instructional Program of the Public Schools of Alabama. Unpublished dissertation, Auburn University. 1964.

32. Taeuber, K. E. Negro Residential Segregation, 1940 to 1960: Changing Trends in the Large Cities of the United States. Paper read at Annual Meetings, American Sociological Association. 1962.

Appendix A

Relevant Questions in General School Characteristics Questionnaire (1960)

Negro Density

About what percentage of your grades 9-12 pupils are:*

Percentage Category	None	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	ALL
95. Spanish or Latin American	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
96. Oriental	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
97. American Indian	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
98. Negro	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
99. Other "Minority" Group (Specify)												
_____												
_____	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )

Community

88. Pupils attending grades 9-12 in your school come from areas which are described as primarily*

( ) 1. Urban residential

( ) 2. Urban industrial

( ) 3. Urban commercial

( ) 4. Suburban residential

( ) 5. Suburban industrial

( ) 6. Suburban commercial

( ) 7. Scattered over the entire city (larger than 5,000 people)

( ) 8. Small-town (under 5,000 people)

( ) 9. Rural-farm

( ) 10. Other (Specify)_____

( ) 11. Students are resident students - cannot estimate

*General School Characteristics Questionnaire.

Appendix B

Post-High-School Adjustment Variables from the Project TALENT Follow-Up Questionnaire (1965)

Job Stability

6 (e) As of October 1, 1965, how long had you worked on that job?

1. Less than 2 months
2. 2-6 months
3. 6-12 months
4. 1-2 years
5. 2-4 years
6. 4-6 years
7. More than 6 years

Job Satisfaction

6 (g) How do you feel about your present type of work?

4. Very satisfied with it.
3. Fairly satisfied with it.
2. Neither satisfied nor dissatisfied.
1. Rather dissatisfied with it.
0. Very dissatisfied with it.

Number of Jobs

7 How many full-time paid jobs have you held between June, 1960 and September 30, 1965? (Circle answer)

None 1 2 3 4 5 6 7 8 More than 8

Rise of Earning Power (for present position)

6 (c) What was your pay (before deductions) when you first started on this job? (Please fill in ONE of the lines.)

$_____per week $_____per month $_____per hour

(d) What was your pay (before deductions) on that job as of October 1, 1965? (Please fill in ONE of the lines.)

$_____per week $_____per month $_____per hour

Level of Post-High-School Education and Planned Post-High-School Education

19. Have you attended college (four-year college or junior college) since leaving high school?

    1. Yes, as a full-time student working towards a degree.
    2. Yes, as a part-time student working towards a degree.
    3. Yes, for informal, non-credit courses, or not working towards a degree.
    4. No.

20. Did you attend any other type of school?

    1. No.
    2. Yes, a technical institute for electronics, drafting, computer programming, or something similar.
    3. Yes, a school of nursing (3-year program).
    4. Yes, a school of practical nursing.
    5. Yes, a secretarial or business school.
    6. Yes, a trade or apprentice school or vocational school.
    7. Yes, an armed forces enlisted-man's school.
    9. Other. (Please specify.)_____

21. Which of the following licenses, certificates, or diplomas have you obtained or do you plan to obtain? (Mark as many as apply.)

(a) Have Rec'd.	(b) Plan to Obtain	
		1. Certificate based upon apprenticeship or on-the-job training. (Describe)_____
		2. Certificate or license based upon correspondence or other specified courses. (Please describe.)
		3. Trade school certificate.
		4. Business school or secretarial diploma.

5. Practical nursing certificate.
6. RN (Registered Nurse).
7. Certificate from a technical institute.
8. CPA (Certified Public Accountant).
0. None of the above.

22. Which of the following college degrees or diplomas have you earned or do you plan to earn? (Mark as many as apply.)

(a) Have Rec'd.	(b) Plan to Obtain	
		0. None
		1. Junior college diploma (e.g., Associate in Arts, etc.)
		2. B.A., B.S., B.B.A., B.F.A. (e.g., B.A. in History, B.S. in Ed., etc.)
		2. Other bachelor's degree (Specify). _____
		3. M.A. or M.S.
		3. Other master's degree (Specify). _____
		4. Ph.D. or Ed.D.
		5. LL.B. (law)
		6. M.D. (medicine)
		7. D.D.S. (dentistry)
		8. Other professional degree (Specify). _____
		9. Other (Specify) _____ _____

Initial Scales Derived from Questions 19-22

Levels of Post-High-School Education

0 - None

1 - Technical school attendance

2 - College attendance

3 - Technical school (graduation)

4 - Junior college diploma

5 - College (graduation)

6 - M.A. or M.S. - other professional degree

7 - Advanced degree (Ph.D., Ed.D., LL.B., D.D.S.)

Planned Post-High-School Education

0 - None

1 - Non-college training

2 - Junior college

3 - B.A. or B.S.

4 - M.A. or M.S.

5 - Advanced degree (Ph.D., Ed.D., LL.B., D.D.S.)

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